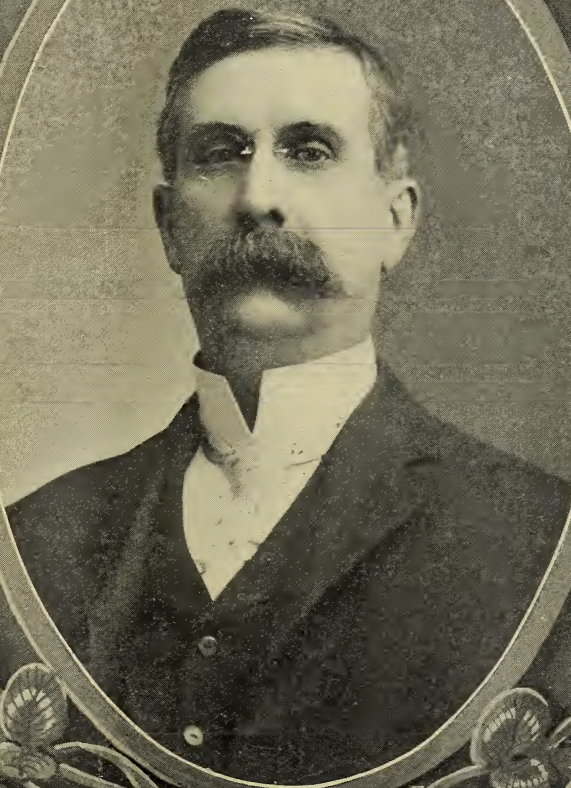


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GLEANINGS

IN BEE CULTURE



J. C. ACKLIN

THE A. I. ROOT CO.
MEDINA, OHIO.

Western Edition

Entered at the Postoffice, Medina, Ohio, as Second-class Matter

North Texas Beekeepers

will find Dallas the best point from which to purchase supplies. We have a carload of ROOT'S GOODS in stock, and sell them at Factory Prices. Don't forget that we can furnish anything in the way of field or garden seeds, plants, and poultry supplies. Large illustrated catalog for 1906 free on application. Mention *Gleanings* when you write. Wish to purchase Beeswax.

**Texas
Seed and Floral Co.
Dallas, Tex.**

SPRINGFIELD MISSOURI

We carry a
large and complete stock of

The ROOT'S 1906 BEE-SUPPLIES

All orders filled same day as received, thus insuring for our customers quick service, Springfield freight rates,

FACTORY PRICES

Send for seed catalog, bulb and plant catalog, Cyphers incubator catalog, The A. I. Root Co. bee-supply catalog

**SPRINGFIELD SEED CO.
Springfield, Mo.**

MR. TEXAS BEE-KEEPER

I would like to talk to you *personally*.

First, I want you to know about my supplies. I handle Root's Goods, of course; for I believe in giving my customers complete satisfaction—for that's *better* in the long run than low prices. My place of business is on the S. A. & A. P. Ry., just opposite the passenger depot, where I have built a warehouse 40×250 feet, and I have filled it full to the brim, for I handle Root's goods by the carload. This means I can furnish you supplies with the utmost promptness.

Then, too, I have installed a complete Weed-Process Foundation factory. I can turn out 500-lbs. a day. I can work your wax into foundation. In fact, my facilities in this line are not surpassed in Texas.

My can business is increasing by leaps and bounds. That is because of the quality of the goods. It will save you dollars to get my prices. Better write for them to-day.

Nothing pleases me better than for bee-keepers to make their headquarters at my office when at San Antonio. You are *always* welcome. I have fitted up my office with plenty of desks and chairs, with writing material, a reading-table, and all the bee journals on hand. Consider yourself invited.

If you haven't my catalog just drop a postal.

After the 15th or 20th of April I can supply Red-clover and Golden Italian queens promptly.

I am now paying 25c cash and 28c in trade for average clean beeswax delivered here. Save your slumgum. I will buy it. Let me know how much you have, in what condition the slumgum is, and in what kind of an extractor it was rendered, and I will make you price I am paying.

Call or Address

Udo Toepperwein - San Antonio, Texas

1322 South Flores Street

C. H. W. Weber,

Headquarters for

Bee - Supplies.

Distributor of Root's Goods Exclusively, at Root's Factory Prices.

Give me your order for the BEST GOODS MADE. You will be pleased on receipt of them. You will SAVE MONEY by ordering from me. My stock is complete; in fact, I keep EVERY THING the BEE-KEEPER needs. CINCINNATI is one of the best SHIPPING-POINTS in the Union, PARTICULARLY IN THE SOUTH, as all freight now GOES THROUGH CINCINNATI. Satisfaction guaranteed. Send for descriptive catalog and price list. It will be mailed you promptly FREE of charge.

I will buy your HONEY AND BEESWAX. I pay CASH ON DELIVERY; or, if you are in NEED OF HONEY, write for prices and state quantity wanted, and I will quote you the lowest price of any quantity wanted—in cans, barrel-lots, or car-lots—of EXTRACTED or COMB HONEY. I guarantee its purity.

QUEENS AND NUCLEI.

Let me book your order for queens. I breed the finest GOLDEN ITALIANS, RED-CLOVERS, CARNIOLANS, and CAUCASIANS. Can furnish NUCLEI beginning of June. For prices, refer to catalog, page 25.

I have in stock seeds of the following honey-plants: White and Yellow Sweet-scented Clover, Alfalfa, Alsike, Crimson Clover, Buckwheat, Phacelia, Rocky Mountain Bee-plant, and Catnip.

C. H. W. WEBER,

Office and Salesroom, 2146-2148 Central Ave.
Warehouse, Freeman and Central Avenue.

Cincinnati, - Ohio.

Honey Market.

GRADING-RULES.

FANCY.—All sections to be well filled, combs straight, firmly attached to all four sides, the combs unsolled by travel, rain or otherwise; all the cells sealed except an occasional cell, the outside surface of the wood well scraped of propolis.

A No. 1.—All sections well filled except the row of cells next to the wood; combs straight; one-eighth part of comb surface soiled, or the entire surface slightly soiled, the outside of the wood well scraped of propolis.

No. 1.—All sections well filled except the row of cells next to the wood; combs comparatively even, one-eighth part of comb surface soiled, or the entire surface slightly soiled.

No. 2.—Three-fourths of the total surface must be filled and sealed.

No. 3.—Must weigh at least half as much as a full-weight section.

In addition to this the honey is to be classified according to color, using the terms white, amber, and dark; that is, there will be "Fancy White," "No. 1 Dark," etc.

DENVER.—Barring a few cases of candied comb honey, we are entirely sold out of both comb and extracted, and could use shipments of new white comb and extracted to good advantage.

THE COLORADO HONEY-PRODUCERS' ASS'N.
June 21. F. Rauchfuss, Mgr.

CINCINNATI.—The demand for extracted honey has brightened up within the past thirty days. However, there is much of last season's crop still unsold, which tends to hold down the price. There is no material change in prices since our last quotation. Quote amber in barrels at 5 to 6½. No new white-clover extracted honey on the market as yet. We find ready sale for new crop of comb honey at 14 to 15½. For choice yellow beeswax we are paying 30 cts. per lb. delivered here.

THE FRED W. MUTH CO.,
June 15. 51 Walnut St., Cincinnati, Ohio.

PHILADELPHIA.—There is no new honey arriving in this market as yet, and so few lots of old honey that we can not establish any price. Some little lots of Southern extracted honey have arrived in barrels. We quote: New Southern honey, light amber, 6½; amber, 6. Beeswax sells freely at 29. We are producers of honey, and do not handle on commission. WM. A. SELSER,
June 20. 10 Vine St., Philadelphia, Pa.

KANSAS CITY.—The market here is almost bare of honey. New honey, fancy white, sells at \$3.50, amber, a little less; no new extracted. Old sells at 5½ to 6. We expect a good demand for honey right along.

C. C. CLEMONS & Co.,
June 20. Kansas City, Mo.

ATLANTA.—Honey is coming in more freely now, and we find that sales are not increasing in proportion to the quantity of honey now arriving. We quote: Fancy white comb, 13; No. 1, 12; extracted, slow at 5½ to 6½.

JUDSON HEARD & Co.,
June 21. Atlanta, Ga.

CHICAGO.—The demand for honey, both comb and extracted, is slow. Fancy comb brings 15; No. 1, 14; off grades, 10 to 12; extracted, white, 5½ to 7; amber, 5 to 6. Beeswax, 30.
R. A. BURNETT & Co.,
June 22. 199 South Water St., Chicago, Ill.

BUFFALO.—There is very little demand for honey now. There is no white comb here. If there were it would sell well at about 15; some candied and No. 2, also some dark comb here; but trade buys only a little when forced to get some. There will not be much more trade for honey until new commences to come.

June 13. W. C. TOWNSEND, Buffalo, N. Y.

ST. LOUIS.—Since our last there is no change noticeable in our honey market. It is very dull on all grades except that there is a good demand for choice new comb honey. We quote: Fancy white comb, 14 to 14½; No. 1, 13 to 13½; amber 12 to 12½; extracted California light amber, 6 to 6½, according to condition and quantity; Spanish needle, 6½ to 7; Southern in barrels, old, 4 to 4½; new, 4½ to 4¾; in cans, 5 to 5½ for old, and 6 for new. Beeswax, prime, 29½; all impure and inferior, less.

June 12. R. HARTMANN & Co.,
St. Louis, Mo.

TOLEDO.—The market in comb honey remains rather quiet. Stock is pretty well cleaned up now. On account of the strawberry season, demand is very light. Fancy white clover would bring 16; No. 1, 15. Extracted white clover in barrels brings 6½ and 7; cans the same; amber in barrels brings 5 to 5½; cans the same. Beeswax is firm at 28 and 30.

GRIGGS BROTHERS,
June 9. Toledo, Ohio.

MILWAUKEE.—We continue to quote honey, fancy 1-lb. sections, 16 to 18; off grades nominal, 8 to 10; extracted in barrels, cans, and pails, free from acid, 7 to 8; amber dark, nominal, 6 to 7. Beeswax, 26 and 30.

A. V. BISHOP & Co.,
June 27. 119 Buffalo St., Milwaukee, Wis.

FOR SALE.—Thirty 5 gallon cans of clover honey. Single can, 7½ cts. per lb.; two or more at 7 cts.
C. J. BALDRIDGE, Homestead Farm, Kendaia, N. Y.

FOR SALE.—Extracted honey. Write for prices. State quantity and kind wanted. Samples free.
HILDRETH & SEGELKEN, New York, N. Y.

FOR SALE.—Superior grades of extracted honey for table use. Prices quoted on application. Sample, 10 cts. to pay for package and postage.

O. L. HERSHISER, 301 Huntington Av., Buffalo, N. Y.

WANTED.—Comb, extracted honey, and beeswax. State price, kind, and quantity.
R. A. BURNETT,
199 South Water St., Chicago, Ill.

STANDARD BRED QUEENS.

BUCKEYE STRAIN RED CLOVER, GOLDEN ITALIANS

By Return Mail. Safe Arrival Guaranteed.

PRICES.

| | ONE | SIX | TWELVE |
|-----------------|--------|--------|--------|
| Untested | \$0.75 | \$4.00 | \$7.50 |
| Select Untested | 1.00 | 5.00 | 9.00 |
| Tested | 1.50 | 8.00 | 15.00 |
| Select Tested | 2.00 | 10.00 | 18.00 |

Select Breeders, each \$3.00
Two-frame Nucleus and Red Clover Queen 3.00

THE FRED W. MUTH CO.,

No. 51 WALNUT ST.,

CINCINNATI, OHIO.

WANTED.—Fancy, white comb honey, also extracted honey in barrels. Send samples, and name best price delivered here.
GRIGGS BROS., Toledo, Ohio.

WANTED.—Comb and extracted honey. State quality, quantity, and price.
JUDSON HEARD & Co., Atlanta, Ga.

WANTED.—Beeswax. Will pay spot cash and full market value for beeswax at any time of the year. Write us if you have any to dispose of.

HILDRETH & SEGELKEN,
265-267 Greenwich St., New York.

WANTED.—We will be in the market for comb honey in both local and car lots, and parties having same to sell or consign will do well to correspond with us.

EVANS & TURNER, Columbus, Ohio.

WANTED.—Beeswax. We are paying at this date for pure average beeswax delivered at Medina or any branch office named below, 27 cts. in cash or 30 cts. per lb. in exchange for bee-supplies, less transportation charges. We can not use old combs. Pack securely and address plainly. Be sure to send bill of lading when you make shipment, and advise us how much you send, net and gross weights. Ship to home office or nearest branch named below.

THE A. I. Root Co.,
Medina, Ohio.

Chicago, 144 East Erie St.; New York, 44 Vesey St.; Philadelphia, 10 Vine St.; Washington, 1100 Maryland Ave., S. W.

WANTED.—A case of two 60-lb. cans extracted honey (1906 crop) of each variety or source from every State in the U. S.; also from Canada, Mexico, West Indies, and other accessible countries. With each lot is required a certificate guaranteeing absolute purity of the honey, and gathered from the source named. Exceptional care must be taken to have the honey well ripened, of good representative color from source named. The honey should be extracted from clean new combs free from pollen. An extra price of about 2 cts. per pound will be paid for such honey, or we will arrange, if desired by any, to supply those co-operating and furnishing sample shipments, with ¼-lb. samples of each variety secured, labeled with name of producer, year, and source of honey. We expect to secure at least sixty varieties of American and foreign honeys. Do not ship, but advise us what you can furnish, and on what basis.

THE A. I. Root Co., Medina, Ohio.

JELLY-TUMBLERS AT REDUCED PRICES.

You can double your money from your honey crop by using Jelly-Tumblers of correct style, as containers and keeping your market supplied. No other glass so economical. Write for quotations.

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C. M. Church, Arnold, Pa.

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BEESWAX WANTED

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A GOLD MEDAL
at the World's Fair,
St. Louis, 1904.



UP-TO-DATE,
STRONGEST,
COOLEST,
CLEANEST.

It has a side grate that strengthens the fire-cup, and holds a removable metal and asbestos lining that keeps it cool, adding to its durability. It has no valves to get out of order or snout to clog.

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I have given your Twentieth Century a thorough trial. For convenience in lighting, durability, and long time one filling will last and give ample smoke, I find it all you claim. In the spring I shall want several. I always want the best. N. E. FRANCE, Platteville, Wis.

SURPASSES ALL OTHERS.—"After giving the Danzenbaker Twentieth Century Smoker several trials, can say it surpasses all smokers it has been my liberty to try; it will not go out until fuel all consumed, and it produces a cool smoke, a feature very necessary in any first-class smoker."

Grant Stanley, Nisbet, Pa.

Prices: By mail, \$1.25; three, \$3.25.

By express or freight, one, \$1.00; three, \$2.50.

For further particulars, see Dec. 15th Gleanings, page 1370; sent free with price list.

F. DANZENBAKER, MIAMI, FLORIDA

Fruit Growers and Farmers.

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all summer while prices are low, and sell next winter at a good profit. Write for our plan; it will interest you.

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For 25 cts. we send formula that never fails to exterminate lice. Costs less than 8c per lb. to make. Guaranteed. Used by many leading poultrymen.

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Gleanings in Bee Culture

Devoted to Bees, Honey, and Home Interests

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Circulation 30,000. Reaches every State and 60 foreign countries.
Established in 1873. Sixty-four pages. Semi-monthly.
Published by The A. I. Root Company, Medina, Ohio, U. S. A.

Terms---\$1.00 per annum; 2 years, \$1.50; 3 years, \$2.00; 5 years, \$3.00, in advance.

Postage is Prepaid by the publisher for all subscriptions in the United States, Hawaiian Islands, Philippine Islands, Guam, Porto Rico, Tutuila, Samoa, Shanghai, Canal Zone, Cuba, Canada, and Mexico. For all other countries in the Postal Union add 48 cents per year for postage.

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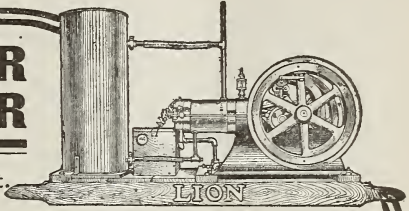
how a man may sell his honey at wholesale, at an advance in price, and, at the same time, save the commission that usually goes to the dealer. Remember, too, there are 32 other chapters besides this, treating as many vitally important phases of bee culture.

Price of the book, \$1.20; or the Review one year and the book for only \$2.00.

W. Z. HUTCHINSON, Flint, Michigan.

A READY POWER AT ANY HOUR

That's the kind of a power you want. You do not have to wait for steam, or until the wind blows, before you can pump water, grind feed, saw wood or the hundred and one other jobs about the farm, if you have a **Lion Gas or Gasoline Engine**. Have you ever thought just what a saving of time, labor and money it would be to have such a practical power **always ready to operate** your various machines on the farm, in the shop, printing-office, or—anywhere?



The LION Engine



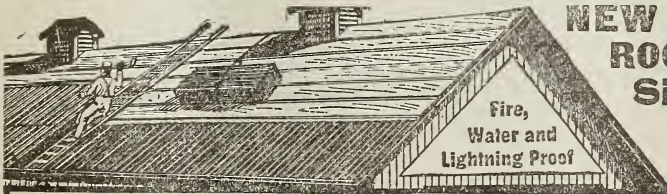
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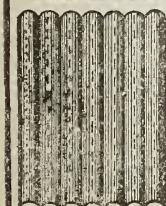
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**PER 100
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Metal roofing, such as we offer, is far superior to any other kind. It is easier to lay, lasts longer and costs less. No experience necessary to lay it. Just an ordinary Hatchet or Hammer—the only tools you need. This roofing at **\$1.75 per 100 square feet**, is our No. 15 Grade Semi-Hardened Steel, painted red two sides, perfectly flat, 24 inches wide by 24 inches long. Corrugated (as illustrated), "V" Crimped or Standing Seam costs **\$1.25**. We can furnish this Roofing in 6 or 8 foot lengths at **25c per square additional**. We offer Pressed Brick Siding and Beaded Ceiling or Siding at **\$2.25 per 100 square feet**. At this price—**WE PAY THE FREIGHT TO ALL POINTS EAST OF COLORADO** except Oklahoma, Indian Territory and Texas. Prices to other points on application.

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35TH & IRON STREETS,

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| Crawford, W. T..... | Fences. | | | |
| Darrow, C. M..... | Coiled Spring Fence Co..... | 912 | | |
| Davis, John M..... | | | | |

ADVERTISING TALKS

BY THE AD. MAN.

FIFTEEN DOLLARS FOR ONE.

One of our advertisers who has just finished checking up his returns for the past season says that his advertisements in GLEANINGS, which ran from November 1st through our May 1st issues resulted in actual sales to the amount of more than \$15.00 for every dollar invested for space in this journal. His investment was about \$80.00, and his sales a little more than \$950.00. What commission would you be willing to pay for sales of your goods? If you could employ an agent who for every dollar paid him in salary would bring in \$10.00 in sales you would be pleased with his work, would you not?

The trouble with most prospective advertisers is that they want proof which can not be had before giving a medium a trial. No doubt the commodity which you offer is needed much more in the households of the readers of GLEANINGS than the one which the advertiser referred to above sells.

If you have a good proposition, and are prepared to give good square treatment to all customers, we would advise you to give GLEANINGS a trial. Many doubters who have conquered their fears sufficiently to do this during the last year have been agreeably surprised at the returns.

We offer to tell you frankly and honestly whether or not, in our opinion, your proposition would meet with the favor of our readers. It would be absolutely useless for us to go to any expense in soliciting your ad. if, after you had made a one or two insertion trial, you found that GLEANINGS did not pay you. We want to secure the patronage of advertisers who will use GLEANINGS year after year, and who will stand by us as long as profitable results are secured.

If you have the faith in your proposition that we have in the "pulling power" of GLEANINGS you will not let another issue appear which does not contain your adv't.

The A. I. Root Co.—For several years I have sent you a small ad. annually. The same has given satisfaction, both in the number of inquiries received and also the sales made from them. We also think the class of customers away up with regards to their statements and honest dealings. We have never lost one cent that we can now recall, from any one who referred us to The A. I. Root Co. Thanking you for the business, and wishing you much success, we remain,

H. H. AULTFATHER.

Minerva, Ohio, March 26, 1906.

A letter like this from a man who advertises in a great many papers is very much appreciated. There is no element of chance in advertising in GLEANINGS. A good proposition—the only kind that we will accept—will always pay.

GLEANINGS A GROWING JOURNAL.

We are very glad to report to our readers and advertisers that GLEANINGS is growing very fast. Not only is the journal growing in size and value of news, but a great growth in the number of subscribers and readers is felt. Indications are that, when the June records are checked up, a growth of fully one thousand subscribers will be recorded.

We appreciate this loyal support. It shows us that bee-keepers appreciate our efforts to give them a journal of value and interest. Growth is always a good thing for all concerned in the making of a publication. New subscribers means more critics and contributors, and thus the teachings of the paper become more nearly true. They mean better support for the publisher, and enable him to publish a better paper without an advance of price.

May be it is in your power to give GLEANINGS a big boost, and we sincerely bespeak any service you may render by bringing the attention of even one bee-keeper to this paper.

FAIR CONTEST FOR GLEANINGS REPRESENTATIVES.

Last year we inaugurated a contest and offered prizes for subscriptions to GLEANINGS secured at County and State fairs and conventions. So successful were our representatives that we have decided to hold a second contest this year.

The dates will be between July 1st and November 15th, and full particulars on prizes, conditions, etc., will be found in the announcement on page 898 of this issue. Here is an opportunity to secure a good cash reward in addition to the liberal commission we pay to persons who will work with us to interest more bee keepers in GLEANINGS. If you feel that you could succeed in this work we should be pleased to have you write.

Our agents will be glad to know that we are at work on a premium or prize list which will offer many very liberal inducements to prospective subscribers. This plan for soliciting subscriptions by means of special combinations and premiums through our representatives is a unique one, and if you would like our literature sent to you as soon as it is ready, send in your name to the Ad. Man.

GLEANINGS' premiums are never of the trashy worthless kind. We offer only such prizes as our friends would be willing to pay cash for if they could afford to do so.

Cash commissions are paid on all subscriptions secured by authorized agents.

The Largest and Oldest Bee-Supply House in Michigan.

ESTABLISHED IN 1878.

Our business has been of steady healthy growth for nearly thirty years. It has been built up on our part by prompt service, courteous treatment, and careful attention to every detail.

The goods we sell are ROOT'S GOODS. They have a quality of their own. We call it "ROOT QUALITY." It's the extra pains taken to have the workmanship and material of the very best.

SOME OF THE NEWEST!

Alexander Feeders

Metal-Spaced Hoffman Frames

German Bee-Brushes

Everything for the bees and always "ROOT QUALITY."

M. H. Hunt & Son,
Bell Branch, Wayne Co., Mich.



This Offer Extended to Aug. 1st

**DOOLITTLE'S
QUEEN-REARING
BOOK**

For Only 25 Cents



When taken with the Weekly American Bee Journal for One Year at \$1—making \$1.25 for both.

(Book bound in Leatherette cover, otherwise same as the cloth-bound book, which is \$1.)

This offer is open to any body, either new or old subscribers, but the latter when accepting it must send enough to pay their subscriptions a year in advance, if they are in arrears now.

Mr. Doolittle's book tells in detail just how he rears the best queens possible; also gives His Methods of Comb Honey Production. Every bee-keeper should have this book. (126 pages.)

OUR STANDARD-BRED ITALIAN QUEENS

are unexcelled. Reared by best queen-breeders. Prices—1 Untested, 75c; 3 for \$2.10; or 6 for \$4.00. Orders filled in rotation. Better get your orders in NOW for June delivery.

The Weekly American Bee Journal one year with Untested Italian Queen—both for \$1.50.

You Wouldn't Know the Old American Bee Journal Now!

Sample copy of the Weekly Bee Journal free on request, or a Trial Trip of 3 months (13 copies) for only 20 cents, to a new reader. Better order now, as there are lots of good things appearing in its columns every week.

Address,

GEORGE W. YORK & CO.

334 Dearborn Street, CHICAGO, ILL.



Mr. Bee-keeper

Just a minute of your time, please. Swarming will soon be over and honey coming in. We can send foundation and sections, if you need them, by express promptly.

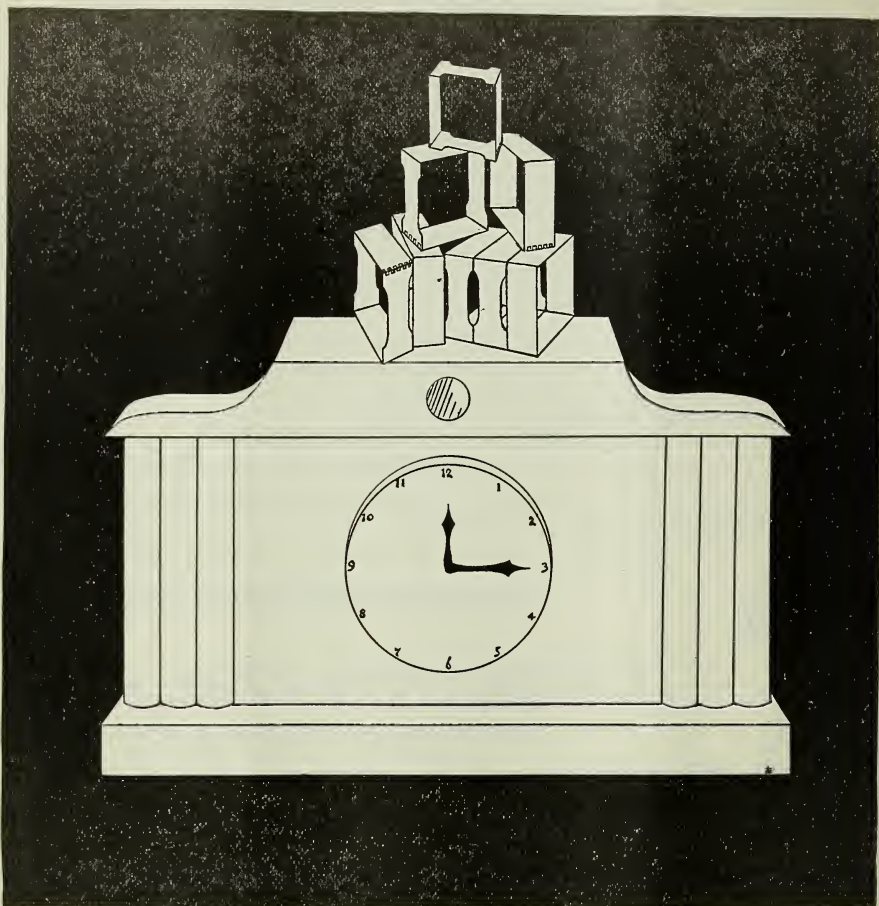
The A. I. Root Company
Syracuse, New York

Sections Right on Time!

15 Million of the Best Sections on Earth

LEWIS SECTIONS

Ready for You at the Drop of the Hat



G. B. Lewis Co., Watertown, Wis.

AGENCIES

ENGLAND—E. H. Taylor, Welwyn, Herts.

CUBA—C. B. Stevens & Co., Havana.

C. B. Stevens & Co., Manzanillo.

CALIFORNIA—Chas. H. Lilly Co., San Francisco.

SOUTHERN CALIFORNIA.—

Fletcher-Doyle Co., San Diego.

Fallbrook Co-operative Association, Fallbrook.

Paul Bachert, Lancaster.

COLORADO—R. C. Aikin, Loveland.

Arkansas Valley Honey-producers' Ass'n, Rocky Ford.

Colorado Honey-producers' Association, Denver.

Fruit Growers' Association, Grand Junction.

Robert Halley, Montrose.

IOWA—Adam A. Clark, LeMars.

Louis Hanssen's Son, Davenport.

ILLINOIS—York Honey & Bee Supply Co., 141-143 Ontario St., Chicago.

Dadant & Son, Hamilton.

INDIANA—C. M. Scott & Co., Indianapolis.

MICHIGAN—A. G. Woodman Co., Grand Rapids.

MINNESOTA—Wisconsin Lumber Co., 432 Lumber Exchange, Minneapolis.

MISSOURI—E. T. Abbott, St. Joseph.

OHIO—Norris & Anspach, Kenton.

OREGON—The Chas. H. Lilly Co., Portland.

PENNSYLVANIA—Cleaver & Green, Troy.

TEXAS—Southwestern Bee Co., San Antonio.

UTAH—Fred Foulger & Sons, Ogden.

WASHINGTON—The Chas. H. Lilly Co., Seattle.

GLEANINGS

IN BEE CULTURE



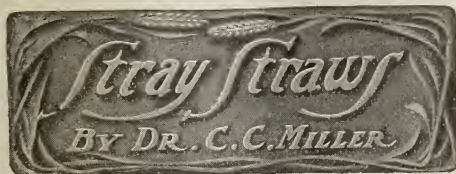
A Journal Devoted to Bees, Honey, and Home Interests
Illustrated : Semi-monthly : One Dollar per Year
Published by The A. I. Root Company, Medina, Ohio



Vol. XXXIV.

JULY 1, 1906.

No 13



IT MAY COMFORT a good many who are in the same boat, to know that bees are doing nothing here. Clover, clover, everywhere in full bloom, but nothing doing.

C. W. DAYTON is the first man, I think, to give a plan whereby a dozen swarms in a bunch can be automatically returned to their own hives, page 812. Looks feasible, too.

TWO TO TWELVE bait sections are advised in the first super, page 797. In this locality, generally only one is used, and does good work. But if we had them, more would be better.

"LIGHTNING never strikes twice in the same place." If that saying is true my shop is safe, for lightning splintered it pretty well the other day, although nothing burned. Plenty insurance.

SHORTENED top-bars are objected to because of lack of finger-room for handling. No trouble here. The shortened ends of the Miller frames are $1\frac{1}{2}$ wide, giving plenty of chance for two fingers under, and thumb on top.

RECENTLY I was much puzzled on receipt of a package without name or accompanying letter. Looked as if it might hold sheet music, but too large. Receipt of *American Bee-keeper* explained it. It's A. C. Miller's latest. Heavy enameled cloth, with a

unique fastening device something like a lady's corset, for protecting a hive or super, black side out for hive in winter, and white side for super in summer.

BEES SEEM, after all, to use poor judgment in storing pollen. Allen Latham reports in *American Bee-keeper* that several colonies were without laying queens the last ten days in May, and for a few days in June, when pollen was coming in most freely, and says, "When those young queens started in to lay, early in June, there was scarcely a brood-comb which was not 75 per cent filled with pollen."

C. W. DAYTON says, *American Bee-keeper*, "The size of the first swarm is varied a great deal by the amount of reverence the bees possess for their old queen—a good one more and a poor one less, almost down to nothing. This is governed by her age, and ability to lay eggs for the future prosperity of the new home." That's a new one. Will those who have natural swarms tell us how much there is in it?

ALLEN LATHAM is always disturbing settled convictions. He says in *American Bee-keeper* that, last June, clover yielded just enough to keep the bees trying to get it, and adds, "Under such conditions, as every one knows, a big load of pollen goes with every small load of nectar." If every one knows that, no one ever told it before; and I always believed, and still have a sneaking belief, Allen, that at such times there isn't more than one load of pollen to each four or five of nectar.

J. E. CRANE, p. 816, says that, where top-bars are supported by tin rabbets, or rests, he finds with many the space back of the metal so filled with propolis as to make them a nuisance. Same here. The little troughs

made by the tin become in time level full of propolis. But it takes two or three years to fill them up, and with the right kind of tool it does not take very long to clean them out; and up to the time they are level full the frames work, oh so much easier than on the plain, wooden rabbit!

FOUL-BROOD spores, in honey, germinate in warm weather, S. Simmins, p. 808. Is it not the general teaching that spores remain indefinitely in honey without germinating? [Most if not all of our scientific men would support your contention. The spores of almost any disease that afflict the human family have been known to lie dormant for a good many years; and yet when given favorable media in which to grow they showed as much vigor as the original disease ever makes at any time.—ED.]

I WONDER if this is the only locality where downwardly projecting cleats are heartily despised. They make the cover unnecessarily long, and take much more time to put on without killing bees. [How this may be, I do not know; but the downwardly projecting cleats stiffen the cover, because the cover-board is slipped inside of a groove that holds it true without the mere dependence on the nails. Then, as I explained in GLEANINGS, this downwardly projecting edge can be used very conveniently to support supers, the bottoms of which are covered with bees.—ED.]

I DON'T THINK I would adopt Joseph Egge's plan for keeping down increase, page 825; but I feel pretty sure, Mr. Editor, that your footnote objection is not valid. You are quite right in understanding that, when a young queen is reared in a hive, she is likely to put the old lady out of commission. But the case is different here. The swarm has been in full tide of progress for a week. The bees are satisfied with their queen, and don't want any other. Enters a strange virgin from another hive. Death-penalty, sure. Even if the young queen should supersede the old one, wouldn't the plan still be a success? [Why, doctor, it seems to me you and I pretty nearly agree here. Read my footnote again and you will see I did not say the plan would not be a success.—ED.]

STIMULATIVE FEEDING is a rather mixed business; and the replies of the editor concerning it are, accordingly, somewhat mixed, if not contradictory, page 828. He says, "Unless the bees have stores in super, or more honey in the brood-nest than is usually found, stimulative feeding in the spring pays and pays well. . . . Yes, avoid feeding when you can. It is a far better practice to give combs of sealed stores laid away from the previous season than to stir up a colony by giving it liquid food if the nights should be at all cool." All of which will be made sound and consistent by dropping the word "stimulative" out of the first sentence quoted. Feeding usually pays well in spring; *stimulative* feeding, seldom. Feeding is always needed when abundant stores are not present. Stimulative feeding is

needed only when in favorable weather a dearth is likely to curtail brood-rearing. My bees have often needed feeding. I'm not sure that they have ever needed *stimulative* feeding. [Look here, doctor, you are not fair. You are leaving off the qualifying clauses, both before and after the first-quoted sentence in a way that makes the sentence following directly contradictory. Taking into consideration the qualifying clauses, it seems to me our ideas of the correct practice are practically the same. No, I would not leave out the word *stimulative*, for there are certain conditions under which it would not be advisable—the very conditions that you name, if I understand you aright.—ED.]

A FLOCK of chickens was enclosed in a bee-yard by Mr. Hillebrand (*Leipz. Bztg.*), and they learned to stand at the hive entrances and snap up the drones as they came out, but never a worker would they touch. He thinks it was because of the sharp smell of formic acid in the workers. But do chickens go much by smell? [We have had quite a number of other reports of precisely the same thing in this country. Is it instinct, or what is it, that teaches the chickens to pick up the big clumsy bees without any sting? It is hardly conceivable that, if a young chick has picked up a live bee and got stung, it would ever repeat the experiment with either worker or drone. Some observations that I have made on various kinds of dumb animals convinced me that one "experience" is enough to last them a lifetime.—ED.]

I WOULDN'T for a minute encourage a growth of grass and weeds at the entrance of a hive. But isn't it putting it pretty strong for Bro. Doolittle to say, p. 824, "I find that, where badly tangled, the colonies in such hives will not store more than two-thirds as much honey during a good bass-wood yield as with those having a free flightway"? Unless there is something I don't understand in the case, the only loss is the loss of time from the alighting of the bee until it enters the hive. Now, if one-third of the crop is lost by that hindrance, there must be always found struggling at the entrance one-third of the bees that are outside the hive. I suppose it would not take a very strong colony to have a field force of 9000. Did any one ever see as many as 3000 returning fielders all sprawling about on the grass at the entrance at the same time? [There is one factor that you do not take into consideration, doctor. The bees, in struggling to get through the tangled grass and weeds at the entrance, tear their wings more or less, and this results in a certain positive loss in bees when the colony needs them the very most. Worker-bees wear out fast enough; and when the wings become badly torn they are put out of commission that much the sooner. When you consider the actual loss of bees to the colony that might be honey-gatherers, perhaps you will find Doolittle's estimate not far wrong.—ED.]



THE DOOLITTLE METHOD OF CONTROLLING SWARMS.

The following, from Mr. F. A. Salisbury, will be self-explanatory:

To-day I have shaken bees out *a la* Doolittle on two colonies on the Doolittle plan of non-swarmling. They are good colonies. If they do not swarm out from the solid combs of honey I expect to get good results.
Syracuse, N. Y., June 21. F. A. SALISBURY.

WHAT SHALL THE HARVEST BE?

CONDITIONS have not materially modified since our report in the last issue, page 794. Southern California, with the exception of San Diego Co., will fall far short of the expected crop. No definite reports are in yet for the central parts of the State, but it will probably have its usual quota of honey.

Indications are still rather unfavorable for Texas and Colorado. The conditions a hundred miles each side of the Mississippi have not been favorable—too much drouth and cold; Missouri and Nebraska, however, send in all kinds of reports—good, bad, and indifferent. Indiana, Illinois, and Iowa have been having too much drouth and cold; but recent rains make it possible for portions of those States to do better than was at first expected.

Wisconsin and Minnesota, at the present writing, are so much later with their honey-flows that the recent rains may enable them to secure their usual amount of honey.

Michigan, likewise, sends in all kinds of reports. In some parts of the State it is reported there has been the largest yield of honey ever known; and in other portions there is fear that there will be no crop.

Ohio is in the doubtful list. The recent rains are toning things up very much.

The entire Eastern States, especially the southeast, send in generally favorable reports, although a number of bee-keepers from all these coast States have reported no crop and no prospect of any.

Pennsylvania seems to come to the forefront with a generally favorable report; then follows New York and the New England States. While the East has been jubilant over the prospects, and honey already secured, the final returns may show a considerably reduced average.

The estimate above given is based on our branch office and agency reports, and on the individual reports of bee-keepers, which confirm very largely the statements already made by our men in the field. As these postal-card reports help us to supplement our own findings, we shall be glad to have our subscribers continue to send them in from now on. Please report not only pros-

pects, but the average per colony thus far secured. Confine your statements to one or two sentences on a postal card.

A SEQUEL TO MY CHICKEN STORY.

SOME time ago, when Mr. Frank McGlade showed by some cartoons and some references to his own experience that the chicken business was a poor one in comparison with that of bees, we received so many protests to the effect that our correspondent was not fair to the American hen, I immediately embarked in the chicken business, and bought an incubator and brooder.

In addition to what I have already stated I may say I got a hatch of 47 out of 130 eggs. I put the 47 chicks in a brooder, and lost from two to three a day, until I had only four survivors that seem to be none the worse for the experience. They are about half grown now, and seem to respect their foster parents (my wife and I) as well as any chickens ever loved the old mother hen.

Josh Billings said experience teaches a dear school, but the tuition is rather high. If Josh had in mind the chicken business he hits my case to a dot. At all events I think I have learned where my trouble is, and propose to repeat the experiment just for the satisfaction of knowing that I can master the situation, and that I can hatch chickens, and raise them in brooders if other people can, as I know they do. A. I. R. said that the old hen was the best hatcher and brooder ever invented.* After my hatcher and brooder experience we (wife and I) put a setting under an old hen. Results, rats stole some of the eggs; hen smashed some, and now she has deserted the nest.

OUR BASSWOOD PLANTATION UP TO THE PRESENT DATE.

I MIGHT explain to our newer readers, that 34 years ago I got the basswood fever and planted ten acres to basswoods taken up from the forest. Some of the trees are now a foot in diameter, and most of them are bearing blossoms more or less. As they bloom at different times we shall have three or four weeks of basswood honey. The first blossoms will be open about July 1. An electric-car line now runs just on the edge of this apiary and also right in front of our factory, thus making it very convenient.

The twin nucleus hives that I spoke of on page 718 are located in this apiary. Well, this morning, June 22, Ernest and I looked over things there. Mr. Pritchard, who has charge of the apiary, showed us a single colony of bees that had been given 72 cell cups, and they had accepted and were finishing out in fine style 69 of the 72. This might

* Ernest is not quite fair. My remarks were intended mainly for the month of June, and especially for his particular experiments. I would not think of saying a word against incubators and brooders in the hands of an expert or one who makes it a business. Ernest has too many grave responsibilities on his hands, not only every day, but almost every hour in the day, to think of managing an incubator or even a sitting hen successfully.

seem almost incredible; but when I was shown large fine queen-cells built out in exactly the same way, and as fine-looking queens laying eggs in the twin nucleus hives as I ever saw in my life, I was converted to the new plan. This has been done on the line of Swarthmore, Doolittle, Wardell, and others. The colony that was starting these cells is, of course, very strong, and they have been made entirely queenless and broodless, with plenty of bees of just the right age, and pollen and honey without limit. Just before the grafted cups are given, the bees of the entire colony are smoked and shaken out in front of the entrance to get them to fill with honey. In that condition, with no brood to feed, they will lavishly feed the grafted cups.* The larvæ for these, of course, are from our best selected breeders.

By the way, I think I might mention the fact that we have just paid Mr. Vernon Burt \$25 for a queen from his yard, that has made such a record that we consider it a good investment. I believe \$25 is the most money we have ever paid for a queen since I bought my \$20 queen of L. L. Langstroth in 1865, when I first started—41 years ago.† As it is an easy matter now to raise queens by the hundreds or thousands from eggs from any particular queen, it behooves us to spare neither time nor pains, and I might almost say money, in getting the very best breeders to be had.—A. I. R.

J. C. ACKLIN.

J. C. ACKLIN was born March 22, 1852, in Fayette Co., Pa. His father was a farmer and stockman, as well as carriage-maker and general contractor. J. C. assisted his father as wood carpenter and painter in the carriage-making, and was government inspector on some contract work. About 1882 he started west with the idea of going finally to California, but stopping for a time at points on the way. He spent some time in Bayfield, Wis., also Ashland, and came to St. Paul in 1884. Here he met Miss Helen Goodsell, and they were married in 1885. Mr. Acklin was a contractor and builder. Early in 1890 they went west, settling for about a year in Pueblo, Colo. Here Mr. Acklin superintended the erection of several large school buildings, having at one time over 80 men working under him. They went west to California, but in the fall of 1891 they returned to St. Paul, where they have remained since. Ethel was born to them in December, 1892, and early the next year they began handling bee-keepers' supplies. During the hard times then prevailing, there was very little building going on, and Mr. Acklin secured a position with the Great Northern R. R. as lumber inspector, which he retained for a number of years. During this time Mrs. Acklin managed the bee-

supply trade with what assistance he was able to render nights and mornings. With the increase in the business the burden proved too great for Mrs. Acklin, and he resigned his position with the railroad company to give his whole time to the supply business and bees, of which they have maintained several out-apiaries.

Mr. Acklin was always actively interested in the Minnesota Bee-keepers' Association from 1893 till the time of his death. He has been a member of the executive committee for the past five years; has been a principal exhibitor at the State fair for the past 12 years, carrying off many prizes. Mr. and Mrs. Acklin have always been closely associated, helping each other in all their work.

Sometimes we are disturbed, and tempted to lose faith in humanity, especially when we read the newspaper accounts of the number of people who have gone to the bad, especially when somebody who has always seemed to be straight and square turns out badly. At such times it behooves us to look around and see how many great and good men and women there are in this world of ours. You need not suggest that they may turn out badly after all, for we who are between 60 and 70 years of age can point to thousands who have lived and died without a taint or flaw on their good name or the good life they have lived. When I heard of the sudden and unexpected death of Mr. J. C. Acklin my mind at once reverted to the time when it was my good fortune to spend a sabbath with him in their own home in St. Paul, Minn. Mr. Acklin seemed to be a rather quiet sort of man. He was always dignified and gentlemanly. I remember with what pride he showed me around that beautiful park of Lake Como, and in his quiet way remarked there was no beer sold there, and not even a dancing-pavilion was to be seen. He also told me there was to be an open-air Endeavor meeting in the evening. The next day they showed me their beautiful church, and it was my privilege to hear an excellent discourse from their talented minister. Mr. Acklin was a large man—not only physically, but he was one who took an interest, both in his own city and in the affairs of his State and nation. We discussed ways and means for looking after the best interests of our boys and girls, not only in their city, but in all the cities of our land and among the rural population. He knew what was going on in the world, and seemed glad that it was *his* privilege to subtract from the evil and add to the good. I was impressed with their beautiful home and delightful home life.

We can not fathom just why God seemed to have deemed it best that Mr. Acklin's life should thus have been cut short in its prime; but I think that all who knew him can unite with me in saying, "May God be praised for the example of such clean, pure, manly lives as was exemplified in the life of our friend J. C. Acklin." May the comforting influences of the Holy Spirit be with his bereaved family and many friends.—A. I. R.

* This is a plan that our Mr. Wardell has practiced for us for a number of years.

† To be more exact, the bargain is that Mr. Burt is to have 25 laying queens, daughters of this special queen, for the queen herself. These 25 laying queens would be worth to us or Mr. Burt more than \$1.00 each.—A. I. R.

IS BLACK BROOD SPREADING IN THE UNITED STATES? A NOTE OF WARNING.

ANYWHERE from one to half a dozen specimens of affected brood are being sent us every week during the summer. I have been fearful for some time that, in addition to the regular foul brood so named in this country, we have been getting specimens of black brood, or what the United States and Cornell bacteriologists call the European foul brood. During the last thirty days we have been handing in several suspicious samples to Dr. E. F. Phillips, of the Department of Agriculture, Washington, who in turn handed them over to the government Bacteriologist. The reports that I got back were somewhat alarming. One specimen of brood from Illinois, three from Pennsylvania, were pronounced to be black brood. I feared as much when I forwarded the specimens to Washington. Other specimens have been found in California.

I have just examined two specimens sent from Michigan which I think are black brood without question.

When I first received this report from Washington I was a little uncertain what to do; but the more I thought of it the more I became convinced that I ought to inform the bee-keepers of those States that the insidious disease is lurking in their borders.

When it is remembered that black brood came very near wiping out bee-keeping in New York, and that it was only by the most strenuous efforts on the part of four of the best inspectors in the country that it was brought under control, the bee-keepers of these other States may well pause and ponder.

I would respectfully urge every bee-keeper to keep a tab on the brood in his yard. When he sees any unsealed dark-colored brood, especially if it be of a coffee color, yellow or brown, and finds further that it is accompanied by a sickening or foul odor, he had better send a sample of the brood *without any honey* at once either to Washington or Medina. But in any case send it in a *stout wooden or tin box, the whole wrapped in heavy manila paper*. Besides using a strong box, wrap the brood itself in paraffined or oiled paper. It is not necessary to have a large sample of brood; but hunt up a small wooden or tin box and cut the brood to fit, so it will go in without crowding after it has been wrapped in paraffined paper.

Remember to send *brood only* and *no honey* with it, for the honey introduces an element of danger to the recipient. *Brood samples put up in paper or paper boxes we shall not examine, but burn them before unwrapping; so don't send them.*

When sending samples be sure to put on your own name and address. About half a dozen of the samples sent us were not marked. As we are getting a good many every week, absolute identification of each sample is rendered difficult if not impossible.

DEAD BROOD, NOT FOUL.

Shortly following a chilly or cold spell in the East, quite a number of bee-keepers re-

ported a quantity of dead brood. One or two apiaries seem to have had a large amount of it. Samples of the brood were sent here, and we diagnosed them as dead or poisoned brood. They were sent, one to N. D. West, of Middleburg, N. Y., and the other to N. E. France, foul-brood inspector of Wisconsin. Both men confirmed our diagnosis. On receiving the samples we wrote all the parties that we thought it was nothing serious; that it would all disappear in ten days or two weeks. Happening to be in the East lately on special business I visited one or two of the affected yards, and found, as I suspected, that the bees were coming out all right. The brood that had died seemed to be all of one age. All new brood was healthy, and seemed to be in first-class condition.

THE BEE-KEEPERS' FIELD DAY AT JENKINTOWN, PA.

TO-DAY, June 28, I have just returned from the above convention; and I can heartily indorse what a good many said at the meeting, that it was the greatest bee-keepers' convention ever held in the United States; and some went so far as to say it was the greatest, perhaps, ever held in the world; and if you take into consideration the new inventions and up-to-date appliances that were there exhibited and under demonstration, I do not know but that it was in advance of any thing that has ever been done before in this world of ours. Mr. Pratt had all his recent discoveries and short cuts in queen-rearing; and some of them were so new and astounding, even to myself, that I could only open my mouth and stare in mute astonishment. Doolittle gave a talk, showing his methods of grafting larvae. Prof. Bigelow had a beautiful little apiary of Pearl Agnes hives placed around in a circle, and he gave a talk that was simply wonderful. When you looked into the faces of the youngsters who stood around him, with the baby sections in their fingers, you could get some glimpse of what this "baby bee-hive" may do with the children of the future. C. M. Church was there and gave us a picture of his mammoth tent or wire-cloth house 30 feet across and 30 feet high. He told briefly what they had accomplished in letting drones fly in the great tent. Perhaps I should explain first, that, when we came in sight of Mr. Selser's beautiful home, a great banner swung overhead, announcing what was going on. Then a raised platform, draped with red, white, and blue (or something of that sort) contained an *ex-tempore* office or offices where some girls dressed in white took the name and address of every bee-keeper, and furnished him a badge and program. By the way, Philadelphia, the "City of Brotherly Love," has some of the most beautiful homes, lawns, flowers, and shrubbery to be seen in the world; and the young ladies (I do not know whether they were all bee-keepers' daughters or not) are not one whit behind. I think I had better tell you right here, before I forget it, that there were toward one thousand in attendance. They were all bee-keepers, college professors, big doctors, or something of that sort, or they could not get on the grounds; but after they were once on the grounds, lunches, both for dinner and supper, were furnished free of charge; and the same supper and dinner tickets when presented to said young ladies brought a dish of beautiful ice cream, both afternoon and evening. There were, perhaps, a dozen or more apiaries, arranged in a circular or some other form, and each speaker stood in the center of this apiary while a rope around the outside kept the spectators from crowding too closely upon him. Mine was the Caucasian apiary, comprising perhaps 15 or 20 hives, big and little.

We also had on demonstration stingless bees and also stings for rheumatism; and, by the way, the stingless bees made more of a racket with the spectators and old bee-keepers than the other kind. Of course, they could not sting, but they could bite, crawl into your hair, get down your collar and into your nose and ears, in a way that set the whole crowd in an uproar more than almost any thing else.

But I am admonished that there is no more space in this issue, and so I will tell you more later.—A. I. R.

LANGSTROTH.

BY EUGENE SECOR.

Now prone are we to count as ill
The light afflictions kindly sent;
To overcome our stubborn will
And lead to large accomplishment.

Blind Huber saw what other men
With perfect sight passed blindly by;
His mind and soul had wider ken
Because a cloud obscured his sky.

Another man against his will
Was forced to leave the path he chose
The station which he thought to fill
Was filled by others. Why? God knows.

But out of disappointment came
The light of truth, the joy of doing;
The common folk he set af lame
With zeal to follow Nature's wooing.

The merry priests of wedded blooms
His genius and his will obeyed;
They deftly builded waxen homes
According to the plan he made.

He told the secrets of the bees;
The sacred chambers of the queen
He first unlocked, that they who please
May enter her well-kept demesne.

The garnered sweets of untold years
Are fruits of his prescient skill,
An age-worn mystery disappears.
Like shadows on a sunrise hill.

His learning graced the printed page;
Beauty and strength went hand in hand.
He was at once poet and sage,
Wisdom and love both in command.

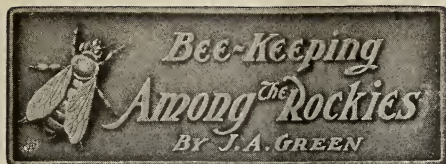
Shall Justice on her lofty throne
For ever sit with bandaged eyes.
While genius fights the horde alone
That robs him of his royalties?

Can God alone apply the balm
To wounds which jealous hate laid bare
Hate that pursued with itching palm
To undermine the rightful heir?

Oh, the pity! and Oh, the shame!
That envy shadows every art—
Folds sacred never an honored name
Nor heeds a patient, bleeding heart!

In spite of all he trusted God,
And magnified His works, His uth.
Dead? Nay, his mortal feet are shod
With sandals of immortal youth.

MURRAY



WHAT DO QUEEN-BREEDERS KNOW OF THEIR STOCK?

A queen-breeder, to receive and deserve the confidence and patronage of bee-keepers, should have some reliable data concerning the length of life of his bees and the quantity and quality of the honey they produce. How many really know any thing about these points?

THE ALEXANDER BEE-HAT.

I used a hat made on this principle some years ago, and I have tried and observed them at various times since as I have seen them in use by other bee-keepers, but I can not say that I like them. Such a hat is substantial, and a good protection against stings, besides being cool and airy, but in general convenience and comfort it is far behind a good veil of netting.

GREASE TO PREVENT PROPOLIS-DAUBING.

Do not neglect to try greasing your fingers at times when the propolis is soft and sticky, and inclined to daub up every thing it touches. You may think you would rather have the propolis than be bothered with the grease. I thought so once. All I ask of you is that you try it. Probably any grease will do. Vaseline is good. I have used mutton tallow largely, just because I had plenty of it.

WHEN YOU SPILL YOUR NAILS.

Speaking of small wire nails, what a nuisance it is to spill a lot of them, especially if they fall into rubbish or grass! Very often it will cost all they are worth to pick them up and keep them clean. At such times a little magnet is a handy thing to have. A magnet that you can buy for ten or fifteen cents will pick them up quicker than you could do it any other way, and they will be perfectly free from the sawdust or other rubbish they may have fallen into.

GET RID OF CROSS BEES.

Weed out the cross stock. Often there are only two or three really cross colonies in a large apiary, and by getting rid of these you will be able to work much more comfortably and rapidly. I do not mean simply those that are cross when being examined—that is, when you have their hive open—but those that are ready to attack you as soon as you enter the apiary, and which hover around just in front of your nose all the

time you are at work there. Sometimes it is a little difficult to determine whence they come, but usually a little observation will enable you to tell from which hive they come. When found, make a note on it, and give them a new queen at the earliest opportunity.

CLEANING HONEY-BOARDS.

The bees are sometimes inclined to fill up the perforations of queen-excluding zinc when used as a honey-board, especially if left on in the fall when no honey is coming in. To clean out this wax and propolis, lay the honey-board out in the sun, on the hot ground, or on a dark-colored board; and when the wax is softened thoroughly, scrape both sides with a sharp metal or wood scraper. For the wood-zinc boards, this must be narrow enough to go easily between the slats. The metal scraper is best; but in the absence of that a piece split from a broken section will do very good work. Run it rapidly back and forth, first on one side and then on the other, and you will be astonished to see how it will take the wax and propolis out of the perforations without going down into them. Keep the scraper perpendicular to the surface of the zinc.

SMALL WIRE NAILS.

Do you keep on hand plenty of wire nails of assorted sizes? Nothing will add more to the convenience of the wood worker than nails that are just suited to the job on hand. I frequently see people using nails that are several times as large as they should be to secure good results, while a less common fault is to use a nail so small that it does not make substantial work. Very often this is simply because they have not learned the convenience of having nails that are just right, but sometimes it is because they can not readily get them. When I began to use wire nails I had to send to The A. I. Root Co. for even the ordinary sizes. Then the hardware men began keeping the common sizes used in carpentering; but for several years in that Illinois city of 10,000 I could not buy the smaller sizes, because they said they could not afford to carry them in stock because there was no demand for them. Before I left there, though, I could buy almost any size of wire nail in bulk. Now the same process must be gone through here, Although nails are used here by the carload, the smaller sizes are not handled to any extent, just because they are not demanded yet.

THE SEASON UP TO DATE.

In writing any thing to be published at an unknown time in the future, the matter sometimes gets out of date before it is printed. I predicted early swarms on account of the cleome that was beginning to appear at the time I wrote. The swarming season is practically all over at this time, and there was not as much of it as was ex-

pected. Some lots of bees swarmed very little, not having been in good enough condition. The first crop of alfalfa has been cut, and but little surplus honey was secured from it. Three of my apiaries have done fairly well, the other three not nearly so well, showing excellently the differences there are in locations not far apart. A great deal of this difference, though, can be traced back to last season, and might have been remedied by proper care at the right time. The bees are generally in good condition for a honey-flow if we should have one. There is an abundance of sweet clover, but there are likewise great numbers of grasshoppers that may eat it all up. There are probably less than half the number of bees in the country that there were last year, so overstocking will not cut so large a figure as it has seemed to heretofore. If there is any honey to be secured during the rest of the season we ought to be able to get it.



GRASSHOPPERS.

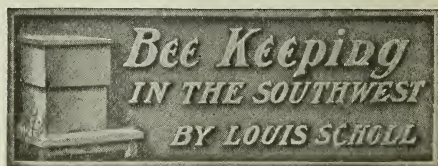
I wish somebody who knows something about grasshoppers and their life-history would give us some reliable information as to what may be expected of them here. Last season they were a great pest here, and were largely responsible for the failure of the honey crop. They are here again in large numbers; and if something does not happen, no doubt they will do us a great deal of harm again. Some of the old bee-keepers are confident that they will die of some disease or from the attacks of some insect enemy before they do much harm. This belief, though, is founded on nothing more substantial than the fact that this happened once before after the first season that they were numerous. We hope it may be true, but may be lightning will not strike twice in the same way. Nothing much can be done in the way of prevention. Poisoning is expensive, and not very practicable. Some of the ranchmen destroy great numbers of them by the use of what they call "hopper dosers." This is a large framework, three or four feet high, on runners, that is drawn across the field. The framework is covered with cloth, and at the base is a pan that is kept partially full of crude petroleum. The hoppers fly up; strike the cloth, and many of them fall into the oil, which kills them. One man told me he killed fifty bushels last year.



SOLAR EXTRACTORS.

The solar wax-extractor ought to be kept running full blast these hot days. Properly used, this is one of the most valuable instruments to the honey-producer. Two adjuncts to the average solar are needed to make it thoroughly practical. The first is the honey and wax separator described by R. C. Aikin in GLEANINGS for Jan. 15, 1902. This is a very valuable invention; but from the silence that has been observed in regard to it since

it was described I am afraid it has gone into the list of good things that have been neglected and forgotten. Some day I am going to write something on the subject of neglected inventions. The other adjunct I spoke of is likewise along the line of Mr. Aikin's practice in wax-making. Some of you may remember that he uses artificial heat to help out the sun. Perhaps you have thought that this would be practical only with a mammoth extractor such as he uses. It is practicable, however, to use artificial heat with even a small solar extractor and thus greatly increase its capacity. I have only a small solar, never having got around to build the large one I want; but I get a great deal of satisfaction out of the use of a lamp to supplement the heat of the sun at various times. I arranged this by simply cutting a large hole in the bottom of the outer case of the solar extractor and setting it over a tight box that formed a sort of basement to the solar. In this a lamp was set so that the top of the chimney came just within the hole in the floor of the solar. This basement has a hinged door at the back, to give ready access to the interior, and is lined with building-paper to keep out drafts and robber bees. This basement likewise furnishes room for a can to catch the honey that runs from the separator above. When things are kept running properly, the honey remains only a short time in the intense heat of the upper chamber, and is but little damaged in color or flavor, while it is so much thickened that some people actually prefer it.



Our April mesquite flow did not come in most parts of the State. In only a very few localities mesquite bloomed, and yielded some surplus. The failure of the flow was rather a surprise to most bee-men, because winter rains and other weather conditions favorable for a heavy bloom of the mesquite-tree prevailed throughout the entire season. Our hopes are now for the usual second flow in June, which is generally the better of the two. In the immediate vicinity of most of my apiaries there are as yet no signs of buds on these trees, and if a flow comes it may be later than usual.



Prospects are not flattering in Texas. Very few localities have been favored by a flow sufficient for surplus honey, and this was only "tolerable." In North and Central Texas bees have been having the worst year so far that many bee-men have experienced. The better class of bee-keepers have

been feeding for several weeks. From reports, hundreds of colonies that were neglected, mostly by farmers, and others too, have died of starvation. The unusual cold and cloudy weather in that part of the State has been the cause, retarding the blooming of plant-growth. Parts of Southwest Texas have been much more fortunate, and some surplus honey was obtained. Less favored locations there have suffered too, however. It is hard to tell at present what the rest of the year will bring us. It is hoped, however, that a change for the better will soon come.

SHADE FOR BEES.

Whether shade is really essential has been discussed by several. Mr. Alexander, I believe, claims that shade is not necessary. That is all right for his northern locality, but not for those in the South, where the sweltering sun of the long days of our hot summer months would quickly change the opinions of those who dispute the necessity of shade for bees. It was with sorrow that



FIG. 1. — SCHOLL'S HALF-BARREL SHADE-BOARDS.

I heard one of our younger but enthusiastic bee-keepers proclaim that shade is not essential, and that better results would be obtained without it. He had made up his mind to rearrange his hives, and have them in the Texas sun. Upon questioning him he had made these deductions from one of Mr. Alexander's articles, but failed to remember that "locality" makes a great difference. Some shade is necessary. Too dense shade is unessential—yes, detrimental—to the welfare of the bees and for the production of honey. With no shade at all in hot climates, the melting of combs and the destruction of colonies will result, while a great loss of labor is entailed by the necessity of the great number of ventilating bees to keep down the temperature inside the hive. Natural shade is preferred. Trees that are decidu-

ous in the fall, and produce a light shade during the summer, are ideal. The most abundant of this here is the Texas mesquite-

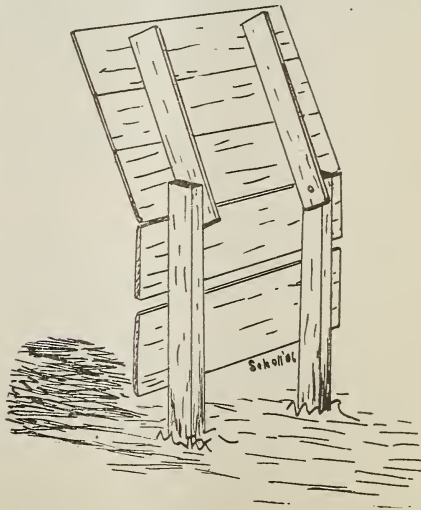


FIG. 2. — PEARSALL SHADE-BOARDS IN USE.

tree, and most of the apiaries are located in such groves.

For artificial shade, many kinds of shade-boards have appeared; but any light boards nailed together on cleats that will rest on the cover of the hive and raise the shade-board up above it a few inches to allow circulation of air is sufficient. Cheapness should be one of the main objects.

Two unique shade-boards were those shown here. Fig. 1 is made out of common light



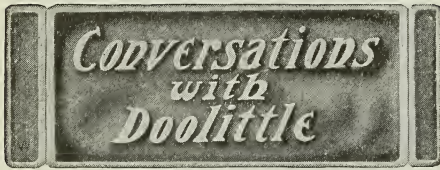
DETAIL OF PEARSON'S SHADE FOR TOP AND SIDE OF HIVE.

barrels cut in halves. A piece of baling-wire is tied across the ends of the hoops to hold it in shape. These shades protect the

supers so well, extending down the sides of the hive, and allowing free ventilation through it, that they pleased me very much. Where such barrels, already used, can be obtained they can be used admirably for smaller apiaries at least.

At Pearsall, Texas, J. N. Long uses shade-boards that not only protect the top of the hives but the west side of them. Fig. 2 shows only a small part of his yard. The drawing shows the details of construction, with the top swung back when work with the hive is being done. This is a rather expensive "shade-board;" but Mr. Long is so well pleased with the results that he uses them extensively.

Protection on the west side of the hives is very important in Southwest Texas, where the afternoon sun strikes the hive-side with great fury. Unless protected the combs next to the wall often melt down, so that some bee-keepers set loose boards against this side of the hive.



POLLEN; TEMPERATURE.

"Doolittle, do you read GLEANINGS?"

"Yes, Mr. Jones, I do. That is, I read all during some time of the year. During the busy season with the bees I often skim over its pages, and then make it a general reading later on, during the fall and winter, so as to be sure that I missed nothing in the skimming process. But why did you ask such a question?"

"I wanted to know if you read Dr. Miller's *Straw* in the June 1st number, where he speaks about bees gathering pollen, and the editor's reply thereto."

"Yes, I read that."

"Well, which do you think was right—Dr. Miller or the editor?"

"I think you are trying to get me into a fuss with the two authorities in bee-keeping, are you not?"

"No. I am anxious to know which you side with, and whether you decide as I do."

"But you know that localities may differ, and what will hold good here in York State may not in Illinois or Ohio. Dr. Miller may be right for his part of Illinois, and E. R. Root for his part of Ohio."

"I had not thought of that part of the matter, and there I may have been wrong. But which do you find is right compared with your experience in your locality?"

"I find that Dr. Miller's experience as given in that *Straw* on page 716 of June 1st GLEANINGS corresponds almost exactly as I find things here."

"And that is my case also; and when I read what the editor said in his comments on Dr. Miller, I fell to wondering whether he was as close an observer as he might be, where he speaks of bees gathering almost no pollen during the honey flow from white clover. Don't your bees gather pollen during the honey-flow from white clover?"

"They certainly do."

"What is the color of this pollen?"

"Mostly a sort of greenish-yellow brown, or very nearly the color of the short, stiff hairs which form the baskets on the bees' legs for carrying the pollen. In the early morning they carry pollen from the sorrel, buttercups, etc., that is of a light color; but from ten o'clock on during the rest of the day they carry little save that from the clovers which are in blossom at this time."

"That is exactly as I find things. And do you not suppose E. R. Root has failed to notice this clover pollen because it is so near the color of the pollen-baskets in which it is carried?"

"I have always considered Mr. Root a close observer, and this is the reason why I think that his locality may give different results from either Dr. Miller's or ours."

"But he must know that the pollen which is stored in sections with the honey, when any is stored there, as there often is (else the bee-papers would not be telling of the different ways to prevent pollen going into the sections), is of this very clover kind, or the kind our fathers and mothers called *bee-bread*. Did you ever see any other kind of pollen stored in sections?"

"I shall have to admit that I have not. So far as I know, this brownish-colored pollen which comes from clover is the only kind that is ever stored in the cells till they are about two-thirds full, and then the cells finished out with honey and finally capped over, to deceive the person who thinks that he has some fine honey, unless he holds the comb up to the light and looks through it, when, if the comb is new, the pollen is readily detected."

"That is my experience exactly. Why, do you suppose, this kind of pollen is treated in this way, while other kinds are not?"

"My idea has always been that this clover pollen is the only kind which will keep over winter, and that it is thus stored under honey to preserve it till the next year so that brood-rearing during the months of January, February, and March, which goes on to a certain extent in all colonies which winter outdoors (as all colonies did in their original state), can be carried on as is desired, before the bees can fly to any extent, or the spring flowers yield pollen."

"Well, that is a new thought to me, and it may be the one which will solve the matter. But how about pollen being gathered during the basswood-bloom?"

"There is the least pollen gathered at the time of linden-bloom of any season of the year when the bees are active; but the reason for this is because there is little pollen

to be had. There is no pollen produced by the basswood, or linden, as you know."

"Yes, I know there is not, but the bees gather it from the wild grape and other sources, even gathering it from our common grass."

"Yes, I know that they gather some pollen in the early morning from these sources, but not to the extent that they do either before basswood or after it, as comparatively few pollen-bearing flowers are not in bloom at this time."

"Leaving the pollen matter, did you note that Dr. Miller proved you incorrect in his next Straw on the same page, where he experimented as to the amount of heat found in a hive placed above the brood-chamber?"

"I noticed the doctor's figures, but I did not see that they proved me incorrect."

"That's strange. Did he not prove that the temperature in that upper hive was warmer by from 9 to 21 degrees than it was in the open air?"

"Yes. I have no doubt that he gave these figures correctly, but those figures do not argue in the least that this temperature came from the bees below, unless I except the first one or two readings."

"On what grounds do you except those readings and not the others?"

"Those readings were taken before the cluster of bees had got settled down from the disturbance caused by his stirring up the bees in his manipulations of the hive, which always causes a rise of heat. You will note that the first reading gave 21 degrees above the outside air, and the second only 17, thus showing that the bees were quieting down."

"Yes, but a little after noon his reading was 22, or one degree warmer than the first."

"Yes, but that does not prove that the heat came from the cluster of bees. In the *American Bee Journal* he tells us of this experiment, and there tells that the bees were at work at noon; and as bees work very little in cool weather except when the sun shines, I take it for granted that the sun was what did the warming of the hive. I once killed a sitting hen, and almost cooked her by slipping her under an empty hive standing in the sun, expecting to care for her soon, when the unexpected happened, and I forgot her till near night. But, of course, that was a day when the mercury went to above 90 in the shade."

"Well, how differently persons can read things! I did not see any way out for you."

"Way out! Dr. Miller's figures only substantiate my claim."

"How is that?"

"Did you fail to note his reading at 5:10 of only 9 degrees higher than the outside air—not sundown yet by nearly an hour and a half? Why did he not give us a reading after sunset? Had he done this he would probably have had a reading of two or three above that of the outside air, that being about the amount of difference there is between confined air, and that which is at lib-

erty. I was very glad of the endorsement that Dr. Miller gave me by his figures.

"Well, well! You will almost beat the magicians."

"Then there is another point that neither the doctor nor the editor seems to consider. At all times when the bees are gathering honey the crust of bees must necessarily be broken to a greater or less extent, by the bees having a passage to and from it; and whenever the cluster is broken in this way a certain amount of heat must escape from it, and there is no question that some heat did go into the upper hive when the reading was 22 higher a little after noon. All my experiments have been tried at night, or days so cool that no bees were flying, and when it was cloudy. These are the only times when any thing can be gotten which is worth trying to, and I think when all this is taken into consideration others will find their experiments very nearly agreeing with those I have made."

[Referring to the pollen matter, a part of my statement, literally taken apart from all the rest, would leave Dr. Miller more correct than me. But the point I tried to bring out was, when honey was plentiful the bees would do less—very much less—work on pollen.—ED.]



WAX-RENDERING.

What Were the Methods Used to Render Old Combs into Wax in the Past?

BY F. GREINER.

[Wishing to learn more definitely what is going on in Europe in reference to wax-presses and wax-rendering methods, we asked Mr. Greiner to go over his files of German bee-journals and glean from them all that might be interesting to the readers of GLEANINGS. He has also written to some of his German friends, and the result of his investigation, interspersed with original notes and comments, is here given.—ED.]

Beeswax has been made from time immemorial for all I know. However, it is not the purpose of this article to tell just how the ancient Egyptians or Greeks or Romans conducted this part of the business, but to trace out what we of the last few decades have been doing in this line.

In looking over the bee journals I find the generally practiced method with slight variations was this: "The old combs were broken up and placed in a suitable kettle partly filled with water. A gentle fire was kept under it, and when the mass was well cooked up it was then ladled into a sack and placed under a press. It was expected, and it has often been said, that, by this pressing and a

second one, after turning the filled sack over and shaking it up, about all the wax that it was possible to obtain was thus obtained. Various little kinks, valuable ones, were given at different times by different ones; as, for example, to "heat the press by pouring hot water over it before using the press;" to "mix cut straw and chaff with the broken-up comb to make the mass of molten comb more porous," etc.

Various presses have been described and illustrated for the benefit of the public, some of a very primitive nature, others more elaborate. We have "made beeswax" time and again by this very method.

Another way suggested itself to the never resting mind of the bee-keepers. It was an improvement over the other in so far as it did away with the pressing—a feature which never took well with the average bee-man or woman. The plan consisted of breaking up the old combs and placing them in a bag, then immersing the whole in a kettle filled with enough water to cover the bag, placing a stone upon it to keep it down. The oozing-out wax was dipped off or allowed to cool without first removing it. I have followed a similar course by fitting a cloth-covered hoop inside of a large iron kettle about one-third the way down. The melted wax, through the boiling process, and being lighter than water, was forced through the cloth the same as in case of filling a bag with old comb. It obviated the weighing-down of the mass with a weight. Still I had considerable trouble to keep the hoop where it belonged. The wax obtained was of a bright color, although made in a common cast-iron kettle.

An engineer bee-keeper in Germany melts the comb by allowing a jet of steam to play upon the mass in the bag and catching the dripping wax in a pail of water.

The reason the above-described methods have been practiced so extensively, I could almost say exclusively, is obvious. The production of wax has always been of minor importance. The large majority of bee-keepers conducted the bee-business on a small scale. Bee-keepers could not well afford to have elaborate and costly machinery to "make" a few pounds of wax. This is especially true of the European continent. There are a large number of small bee-keepers, and they must use any old thing to render their old combs in that comes handy, and we find their primitive methods of rendering combs into wax described in a thousand different places, none of them differing much from another. I have just looked over the bee-journals printed in Germany from 1901 to 1905, and I find the question not discussed as to "how much wax may remain in the slumgum," but a number of different wax-extractors have come into existence during this period and just previous. It seems the bee-keepers were not satisfied with the old and bungling ways of former times for obtaining wax. It has always been an annoyance to me and to many others that we found particles of wax in the slumgum, that the

cloths used in the presses were coated with the yellow costly material, etc. So the efforts of certain more progressive and business-like men to give us a better and simple method, or at least better tools to produce our wax, were appreciated, and the successes or partial successes welcomed.

The first of these machines was intended to make my cloth-covered hoop, etc., handier and more practical. A tin can or pail with flaring sides was so rigged that a sieve could be securely fastened about one-third of the way down; through this, in the center, worked an agitator which admitted of being turned by a crank at will. An inch above the sieve an outlet-pipe was fixed. By keeping the water just high enough in the tank the melted wax would continue running out of the outlet when the machine was in operation. There was no cover to confine the heat and steam, etc. Another machine built on the same plan ran the agitator very closely under the sieve so as to keep it clean.

The one illustrated in the *American Bee Journal*, by Dadant, a French invention, has a windmill winged agitator which is expected to force the wax-freed parts of comb down. It is not provided with a cover or an outlet-pipe, and the wax must remain in the kettle till cold, which, as is stated, will take 30 hours. I should consider this an undesirable feature, as a refilling of the machine would be impossible the same day. A salt-saturated solution is used in it in order that the mass may be heated to greater heat. It is said that it would require 24 degrees more heat to bring such a solution to boiling; and the higher the temperature the better will the wax come up; but it must not be forgotten that salt brine is very hard on iron utensils.

The last-named wax-rendering machines have the one great fault in common, that no provision has been made to prevent the scorching of the boiling mass. When applying fire direct to a kettleful of old brood-combs filled with pollen, etc., it is a common occurrence to have the contents burn or scorch. When this has occurred it is almost impossible to get the kettle back in good shape for future work. The very recently brought-out Arthur C. Miller wax-extractor, constructed otherwise on the same principle, obviates the trouble of a possible scorching absolutely, as the can holding the unrendered comb is surrounded by water. It also has a cover, of conical shape, which, as it appears from the cut in the *American Bee-keeper* for December, 1905, is securely bolted to the outside can. It also appears from the same illustration that the outlet pipe is in this conical cover and the water and wax must be kept above the top of the can, and must rise above where cover and can join. I entertain some doubt whether this arrangement can be made to operate successfully.

I have, so far, not mentioned the steam wax-extractors. The first wax extractor I ever owned was one of this kind. It was made by A. I. Root many years ago, and

served me many years, although it failed to give us as much wax as it ought from a given quantity of old comb. The color of the wax obtained was always green instead of yellow. The A. I. Root Co.'s German wax-extractor with press has given me better wax and more of it; but the residue contained wax still. I have never been able to obtain all the wax from old comb with it nor with any other machine, for that matter. The majority of steam wax-presses are built in circular form on account of the greater strength, and because they can be built thus with the least material. A narrow comb-basket would probably allow the wax to escape a little easier when the follower is screwed down. A few machines are built on this principle.

The *Schweitzer Bienenzeitung* for November, 1904, describes and illustrates a newly patented steam wax-extractor which embodies all the principles of the Root Co.'s German wax-extractor, and some others—in particular, these: "All parts of it are easily removable, easily cleaned and dried. It may be used as a plain kettle." For the last eight or ten years many steam wax-extractors of different patterns have been advertised in German bee-papers. The principle of all of them is practically the same. The fact that they are constantly advocated and offered for sale seems to show that they are considered a satisfactory tool in Germany, and that bee papers are not yet ready to abandon them for the Arthur Miller type. Personally I am inclined to believe that the latter machine, if not filled too full of comb, will give us nearer all the wax than any press in existence. I believe the principle to be right, but think that the machine, as now built, is not yet perfect. I further believe that the "making" of beeswax will always remain a mussy job, and the housewife will always rather see us go than come. The best way to avoid a conflagration on account of spilled wax and the like is never to enter the kitchen with any kind of wax-extractor. Of late I have myself used a blue-flame oil-stove in my shop for the work, and I can say that this has worked well. *I earnestly urge every lover of peace to stay out of the house with his wax!*

I observe that suitable stoves to go with steam wax-presses are offered for sale by manufacturers in Germany at a very reasonable price. Hereabout, most families own an oil-stove; and as they answer the purpose well, there is scarcely any need of a special stove. An oil-stove also comes handy in warming up honey in the 60-lb. cans. When doing this it is safer, perhaps necessary, to use asbestos stove-mats to prevent overheating.

In addition to what is said in regard to the Arthur Miller type of wax-rendering machines I wish to add the testimonials of two German bee-masters, each speaking of a different method. Gravenhorst, editor of the *Deutsche Illustrierte Bienenzeitung*, said in 1902: "The only sensible and practical method of wax rendering is by the use of a substantial wooden press after boiling the

broken-up combs in a suitable kettle. The steam wax-extractors with press, and the solar machines, are unsuitable."

Gerstung, editor of *Deutsche Bienenzeitung*, speaks very favorably of his steam wax-press, Simplex, and says that but little pressure ought to be exercised upon the molten mass of comb; but one ought to be very sure that the comb was thoroughly cooked up and all cooked to pieces. Plenty of time should be allowed for this.

My friend Alfonsus, of the *Bienenvater*, Vienna, Austria, says steam wax-extractors have had their time, and the old-fashioned wooden press is preferred by many. Hot-water extractors are in use some, and in favor. Alfonsus promises to write an article on making wax for me, and wants me to translate it.

Prof. Luigi Sartori, Milan, Italy, advises this: "Soak the broken-up combs 8 to 10 days in rain-water, then boil up or melt and mix with cut rye straw; when hot, press. This gives more and better wax than steam wax-presses."

All teachers in the old country are agreed that the old comb should be well broken up before putting the same into any wax-extractor, but not broken up so fine as to reduce to a fine dust, as this would hinder the escape of the wax to some extent.

From the above it will appear that opinions are still divided on the matter of wax-making. Yankee ingenuity has solved many a problem in bee-keeping as well as in other branches of business, and ere long that of wax-making will find its solution.

Naples, N. Y.

[I wish particularly to indorse the suggestion made by Mr. Greiner on the importance of getting a little gasoline or oil stove. A one-burner, or, far better, a two burner that can be bought for \$5.00 at retail will do very good service. Sometimes one can buy an old second-hand cook-stove for two or three dollars which he could put out in a shed. But on no account would I think of doing the work in the house unless the operator is a great deal neater than the average man.]

We should be glad to receive the article from Alfonsus after it has been translated by you.—ED.]

MATING QUEENS.

The Requirements of an Ideal Nucleus Hive;
Four Nuclei in One Hive.

BY W. S. M'KNIGHT.

Nothing interests the queen-breeder more than the mating problem; and while numerous plans have been devised for mating queens cheaply there are some points in most of them that are quite objectionable. Many breeders still use nothing less than a two-frame nucleus, full Langstroth size, which is quite expensive. Others mate queens in small "baby nuclei," which is

quite the extreme; and before trying to tell of the style of mating-box I use, it might be well enough to consider these points.

1. We must select a style of nucleus that will maintain its numbers, and at the same time be inexpensive if economy is to be considered.

2. One that can be given syrup or honey without exciting robbing.

3. One in which laying queens can be kept for several days without being crowded for room.

4. One which permits of easy manipulation.

5. One which will require only a few bees to compose the miniature colony.

When you complete a mating box according to the above-named requirements you have just exactly what I call an ideal; and nothing short of these, neither one "just as good," should be considered.

Now for the box I use (it could be less with good results). First, it is just a plain box, made not only *bee-tight* but *air-tight*, 8½ inches deep, 8½ wide, 17 long. Now, that seems large for a "baby," but when you prepare it for four virgins at one time it is only a baby. This is done by two partitions of wire cloth, one running from end to end and the other from side to side, thus giving you four mating-boxes in one, and it should also be understood that the entrances *must not* be crowded too close together. To overcome this an entrance is made at each end of the box and at each side of the box, which, as will be seen, is only one entrance to each division. I make my own frames for these, and use a tiered-up box of this size, the frames running crosswise with a *full* swarm in drawing out these combs, which is already supplied with brood when making up these boxes or nuclei, which prevents the cupful of bees from swarming out. A small hole in the sides of each is used to inject syrup. A sheet of enameled cloth is spread over each, and a single cover for the whole. The two flight-holes should not be larger than ⅜ inch. I prefer ¼ inch holes in order that only two or three bees may defend the entire cluster.

Keep a record of the ages of virgins, and open the hives only when necessary. Try just one of these, Mr. Editor, and own up that it has not the objections you mention on p. 140. This is a design of my own, so far as I am concerned, but I ran across it by accident.

Newtopia, Ala., March 8.

[We have tried a mating-arrangement that was quite similar to the one above described, but on a much larger hive; but it had the objection that the clusters would not form into one compact sphere. Please let us know how largely you tested out this arrangement, and whether or not it gives equal satisfaction the entire season through. Something that will work nicely at one time of the year will give all kinds of trouble at another season.—ED.]

THE FERRIS SYSTEM OF PRODUCING COMB HONEY, AND SWARM CONTROL.

The Ferris Comb-honey Attachment; its Detail of Construction.

BY A. K. FERRIS.

Continued from page 803.

[In our next issue Mr. Ferris will continue his treatment of comb-honey production. We were compelled to divide the chapter, owing to lack of space in this issue.—ED.]

We now suppose that we have reached the time when the flow is commencing on white clover. We have dequeened both divisions of our hive, and either made a nucleus with each queen or else destroyed both the old queens, and we have also either purchased or reared a batch of queens early enough so they are laying, or at least we have a batch of nearly ripe queen-cells from our best breeder. After this large double colony has

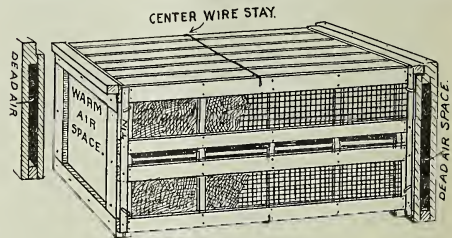


FIG. 4.—FERRIS COMB-HONEY ATTACHMENT.

been queenless twenty-four hours, both divisions are united and the whole is given a queen or cell, or it may be given immediately after removing the queens if protected.

We now take a story of the best frames of brood and place it on the bottom, and confine the queen to this with an excluder, or give it one of the queen cells previously

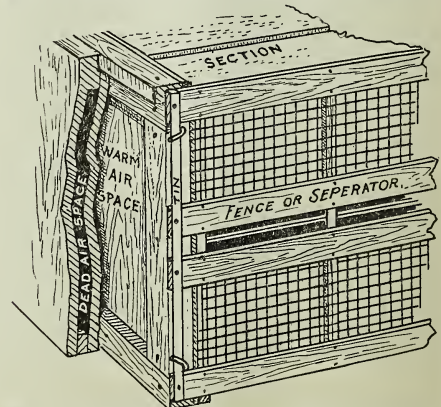


FIG. 5.—COMB-HONEY ATTACHMENT SHOWING END PROTECTION.

reared. This is as used for a fourteen frame Langstroth hive; but where smaller hives are used so that the queen is liable to become crowded I prefer about half the frames in this story to be full sheets of foundation.

These are also useful afterward, as you will notice, to be used with the comb-honey attachment.

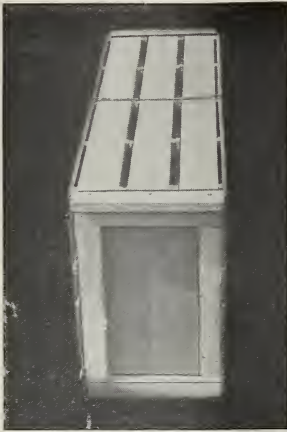


FIG. 7.—COMB-HONEY ATTACHMENT, END VIEW.

If honey is coming in quite slowly, and they do not need extra room to accommodate the hatching bees, simply stack the brood above the excluder until they do need more room.

If honey is coming in fast enough so they need room to store, give it by a comb-honey attachment as described later. I have never known colonies thus united, where only a thin partition intervenes, to fight; but it is well to give them a smoking before and after uniting, and I always do where I unite two entirely strange colonies.

If laying queens that have been reared in your own yard are given I find no trouble in introducing by simply smoking the colony well, then run her in, smoking them a little for luck. In this way I rarely have a loss, and it saves much time and trouble.

When the next visit is made, which should be in a week, look these stories over for queen-cells; and if honey has been coming in enough so they need room, give it by giving them a comb-honey attachment. This de-



FIG. 8.—COMB-HONEY ATTACHMENT, SIDE VIEW.

vice is well illustrated in Figs. 7, 8, 9, 10, 11. The sides of this are made of four parallel bars 1 in. wide by $\frac{1}{8}$ thick by $18\frac{1}{2}$ long, with cross-pieces $\frac{5}{16}$ wide by $\frac{1}{8}$ thick by $9\frac{1}{2}$ long, and two pieces of galvanized wire cloth three

or four mesh to the inch, $16\frac{3}{4}$ in. long by $2\frac{1}{2}$ wide. On one of these side-pieces a strip of heavy tin $\frac{3}{8}$ wide by 10 long binds the ends to catch the four screw-hooks — see Figs. 8, 10, 19

In removing the honey from attachment all that is necessary is to turn these four screw-hooks with thumb-nail or pair of pliers, when the whole side can be removed, and the ends are loosened so that every thing is perfectly free and easy to be gotten out. See Fig. 10. This hits the propolis question a rap that it has never received before by any super.

The ends are $\frac{1}{8}$ in. thick by $9\frac{3}{8}$ long, the width varying according to the number of sections the attachment holds. These at-

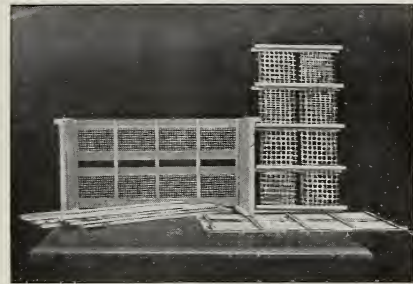
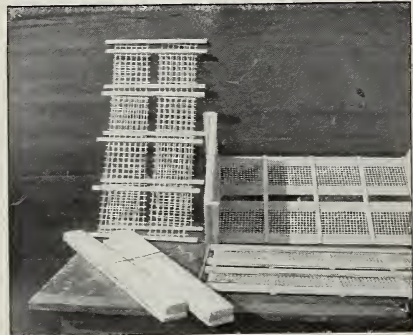


FIG. 9.—COMB-HONEY ATTACHMENT.

These both show attachment without the sections, taken so as to show different parts.

tachments can be made to take any number of sections as follows: 8, 16, 24, 32, 40, 48, etc. These ends are bound by $\frac{3}{4} \times \frac{3}{8}$ -in. pieces as shown in Figs. 7 and 20 so that, when placed in the super, $\frac{3}{8}$ in. or a little wider space intervenes between the central inside end of the super and the central square of attachment end. See Figs. 7, 20. My supers are also made with a $\frac{5}{8}$ -in. dead-air space in the ends, as shown in Figs. 4 and 5. This secures the end sections against any outside extremes of either heat or cold. The sections are supported by plain slats $\frac{5}{16}$ in. thick by 17 in. long, and width same as the sections, $1\frac{3}{8}$ or $1\frac{1}{2}$ inches, and another slat of the same dimensions is used above the sec-

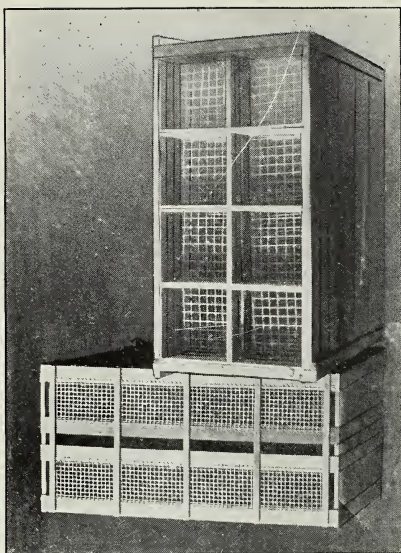


FIG. 10.—ATTACHMENT WITH FRONT REMOVED, READY TO REMOVE SECTIONS.

tions to keep their tops clean. The bottom slats rest on a piece of wood $\frac{1}{2} \times \frac{1}{2}$ inch, and are securely nailed to the inside ends of the attachment.

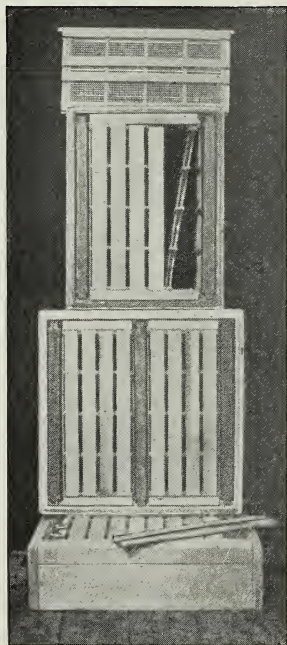


FIG. 11.—THE ATTACHMENT AS PLACED IN SUPERS.

Top view showing position of combs of brood in a ten and fourteen frame hive. Two tiers of sections and a couple of top slats are removed from ten-frame super.

The separators are two pieces of wire cloth 17 in. long by $3\frac{1}{2}$ wide, either two or three mesh to the inch. I prefer as open a mesh as possible so long as it keeps the combs from being bulged. These separators, illustrated in Figs. 9 and 10, are so open that the bees realize no obstructions from them; yet it accomplishes the real object of a separator without excluding both bees and honey. The cross cleats to separator are $1\frac{5}{8} \times \frac{1}{8} \times 9\frac{1}{8}$ in. Thus all propolis is excluded from sections except a line on top and bottom of the edge of the section, which may be entirely removed by rubbing across a wire screen horizontally.

Madison, Wis.

Continued.

A NON-REVERSIBLE EXTRACTOR.

One That Throws the Honey out of Both Sides of the Comb at Once Without Reversing.

[Some ten or twelve years ago Dr. Miller and myself discussed the practicability of an extractor that would not require the reversing of the combs. The idea was by no means new, for it had already been tried to some extent in Europe. The doctor, however, urged that we try the principle at Medina. Accordingly we built a special machine so constructed that when Langstroth frames were placed endwise down in the pockets the end-bars would stand out from the center shaft of the machine like the spokes of a wheel. In this position the combs were fixed. We found that, when the honey was not too thick, such a machine would throw it out of the combs after a fashion. But the operation was slow, for the reason that the honey had to creep over the face of the comb from one cell to another until it reached the top-bar, when it was thrown off against the sides of the can; and after the combs were removed they were not as clean of honey as we get from the machine as now made. But the machine was especially slow and unsatisfactory when combs containing *thick* honey were tried. Even when greater speed, and consequently more power, was employed, the work could not be done as well nor as rapidly as with the ordinary style of extractor.

The following letter from Dr. Miller draws attention to another application of the same principle by Mr. E. Blondet. As the matter is of some interest, we give extracts from Dr. Miller's letter and also a translation of the original, and a copy of the illustration, taken from *L'Apiculture Nouvelle*. The following is the letter from Dr. Miller—Ed.]

Dear Ernest:—You may remember the effort you and I made to throw honey out of both sides of the comb at the same time. I don't understand yet why it didn't work. E. Blondet says he succeeds as in the enclosed picture.

I'd like to know how perfectly Blondet's machine works. He says it works to his entire satisfaction, but others might not be so well satisfied. The principal parts of his were made from a bicycle.

Just as it is in the picture, there doesn't seem much to it. Only three combs at a time. But here's something well worth considering, if good work is made in emptying the three. I don't mean that no reversing is needed, although of course that's very important. You know that, with all the kinds yet on the market, every comb added adds greatly to the expense of the machine, and I don't know that it has been considered practicable to go beyond a six-frame extractor. But with Mr. Blondet's machine it would be only a little more expense to have

another three combs side by side with the ones now given, and it ought not to be a very difficult thing to make a fifteen-comb machine and run it by hand too. The only question is, is the three-frame machine a success? If so, then the fifteen-frame machine is easily in sight.

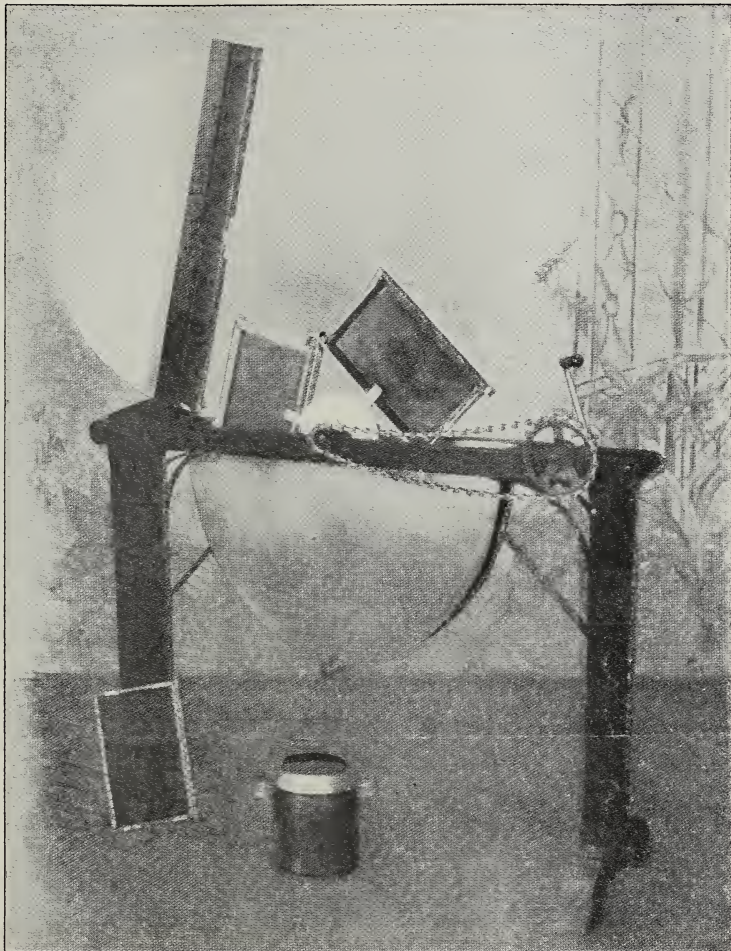
C. C. MILLER.

Marengo, Ill., May 24.

[The translation, with illustration above mentioned, is given below:]

system is unknown in Europe and America. But it may, without doubt, have some inconvenient feature of which I have not taken account, not possessed by common extractors.

The model shown below consists of three frames attached to a revolving axle, the lower frame being out of sight. This machine, made by an amateur, may be made to work, without doubt, just as it is. I am satisfied with its work.



A VERTICAL NON-REVERSING HONEY-EXTRACTOR.—FROM L'APICULTURE NOUVELLE.

For my use I have made this extractor, which works to my entire satisfaction.

The honey is extracted at once from both sides of the comb, and hence it seems to me more rapid than the horizontal extractor, which compels one to turn the combs after the honey has been extracted from one side. I can not explain why such an extractor is not shown in catalogs of bee-supply houses. I can not believe that this

It is possible to extract honey from pieces of comb or sections, fastening them in tin comb-carriers such as are shown at the foot of the picture.

The principal parts of the machine were taken from an old bicycle. E. BLONDET.

[It will be noted that Mr. Blondet employs precisely the same principle, but in a different way. The frames, instead of being so

disposed that the end-bars or top-bars will radiate from a common center like the spokes of a wheel are placed as shown in the illustration, but in a way perhaps to secure a more direct application of the centrifugal force.

Without trying the machine I should conclude it would handle extracted honey like the other model we tested if it were not too thick; but it is a fact that the honey in the cells nearest the center would have to traverse the whole surface of the comb before it could be released, and a great amount of time would be consumed before the comb would be rendered clean. In the case of thick honey the result would be slow and unsatisfactory.

This machine might be a slight improvement over the one that Dr. Miller and I tried, but it would be open to very much the same objection. In the perfected automatic reversible extractors of to-day there would be no particular advantage in having a machine where it is unnecessary to reverse the combs. Even if the principle were practical a 10, 12, or 15 comb machine would be decidedly awkward and expensive—more so than the present model.—Ed.]

INCREASING THE PASTURAGE BY SOWING SWEET CLOVER.

The White and Yellow Varieties; Artificial Pollen; How to Feed.

BY MRS. A. L. AMOS.

Last October there appeared in GLEANINGS an illustrated article by John Bodenschatz telling how much he had increased his honey yield by scattering sweet-clover seed on waste land in his vicinity. GLEANINGS called for a show of hands from those who could give testimony along that line. My own experience is similar to his, in a smaller way, as I have fewer bees. My yield of honey is much greater, and the quality of the honey is very much improved since sweet clover has become an appreciable factor in the honey crop.

Mr. B. did not say what kind of sweet clover he had; but it is not difficult to infer that his is the white kind, since he spoke of its following white clover. That is the kind to have for those who want it to follow white clover. There is so little white clover here that it cuts no figure in honey production, so I have been busy every spring increasing my acreage of the yellow kind. I grow that instead of white clover. The first few blossoms usually open near the end of May, and it yields freely all through June. It slackens up in its blooming then; but after maturing a big crop of seed it begins to bloom again. Putting the time a month later, one might say the same of the white as I have said of the yellow. The bee-keeper here who has abundance of these two clovers is practically independent of any other honey flora, since they supplement each other, and

together yield honey until killed off late by freezing weather.

The honey obtained here from sweet clover is fine, and I have no trouble at all in selling it at top prices, both comb and extracted. I have these clovers growing on my own farm here around the orchard, and wherever there is a piece of ground available. And I have also some flourishing patches along the roadsides.

Sweet clover bears transplanting well if taken in early spring. I like to start out armed with a spade and a pailful of plants as well as seed when I try to establish it in new places. I have spent hours that way, and thought the time well spent.

FEEDING ARTIFICIAL POLLEN.

My colonies are strong and in good condition this spring. I have been feeding artificial pollen for over two weeks. The elms have not yet yielded pollen, but surely will in a day or so. Apropos of this meal-feeding, I think I have struck quite an improvement on the shallow pan usually recommended. There are objections to that here. We are seldom without a good stiff breeze that can blow the meal, if not the pan, and the place is overrun with these alert foragers the White Leghorn chickens, which are good at finding meal-pans; so this spring I feed in the bottom of a salt-barrel. I feed corn meal and flour, and the bees have used a lot of it. The same meal does quite a while. I sift flour over the top, and stir lightly. I leave the barrel out, simply turning a galvanized tub over it at night or during rain. It has been eminently satisfactory to me and the bees.

Comstock, Neb.

[Our own observation corroborates the above, to the effect that yellow sweet clover is three or four weeks earlier than the white. Right under our office window are some thrifty sweet-clover plants two or three feet high. While the white shows no blossom-buds at all, a stock of yellow is in full bloom. While I am on the subject of clovers, several have inquired about Japanese clover—whether bees work on it, etc. We have not been able to learn so far that bees are seen on it at all; but our seed-catalogs tell us it grows all over the South; is valuable for horses and cattle, and also for plowing under. The seed is offered for sale at from 25 to 30 cts. per lb.—A. I. R.]

BEE-KEEPING IN IDAHO.

E. Schultz's Apiary; the Irrigating Flumes and Sweet Clover.

BY E. F. ATWATER.

The photos shown are of the Idaho apiary of Mr. E. Schultz. The location is a fine one, as there is considerable alfalfa seed raised near by, and the country is cut up by gulches which receive the waste water from irrigation, and support a wonderful growth of

sweet clover of the white variety. Notice the flume extending across the gulch, to carry irrigation water, and the growth of sweet clover under it. Not all of the colonies are shown, as I suppose the yard contains 150 to 200 colonies, and was one of the few yards in this valley to secure some honey last year. The long shed in the foreground is made of light poles to which are fastened cat-tails, or tules, as they are called here. It is quite a welcome protection to bees and bee-keeper from the fierce rays of the summer sun. The yard is nicely terraced, the shop being at the lowest point, so all honey goes down hill after it is taken from the hives.

hard at work gathering nectar. This fact led me to the conclusion that the alimentary canals of the bees at this time were nearly free from disease, and with food direct from the fields a clean start could be made by the bees, in the shape of a swarm. I have done this repeatedly, placing the swarm on foundation, not comb, with the result that seldom more than two or three cells in the new brood showed disease. These odd cells were opened with a match-stick, using one to each cell. The spores were *burned out* with full strength Calvert's No. 5 carbolic acid, administered with a dropping-bottle, care being taken to destroy the sticks. These odd



SCHULTZ'S TERRACED APIARY WITH ARTIFICIAL SHADE IN IDAHO.

The stands shown are similar to those used by Mr. Marchand, of Florida, as illustrated in GLEANINGS a few years ago. The hives used are mostly ten-frame, with full-depth extracting supers and $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{8}$ beeway sections.

The hospitable owner stands at the rear of one of the hives in the second row; and if any of the readers of GLEANINGS should pass that way I am sure they would be cordially greeted.

Meridian, Idaho.

FOUL BROOD AS VIEWED FROM THE STANDPOINT OF AN ENGLISH EXPERT.

A Discussion of Recent Statements.

BY J. GRAY.

In my official capacity as traveling expert I have frequently noticed that stocks suffering from *Bacillus alvei* have commenced to raise healthy brood when the stocks were

cells sometimes have been treated 12 months after the bees seem to put an extra thick capping on them.

My usual test in dealing with odd cells of brood dead in the pupa stage is as follows: If moldy, no need to fear, for the germs of mold do not thrive in the same cell as the germs of *Bacillus alvei*.

If a dead imago, there is no need to fear. If the cell is apparently empty, *then beware*, for closer inspection will reveal the dried scale adhering to the lower cell wall, the end toward the opening curled up. This scale contains the seeds, or spores, of the disease, and in this stage it can resist high and low temperature, and can germinate into bacilli after the lapse of years. I have known a stock after a lapse of eight years, when such cells were reopened, to become rotten with the disease.

The whole of the ten combs in this stock were affected. Each comb contained from 20 to 40 cells, hermetically sealed with a thick black capping. The brood in the larval stage was perfect and healthy.

In the face of these facts I am at a loss to understand Mr. Simmins' remark, p. 1311, "when there is no brood in warm weather, *every spore must germinate*, appears to be fatal to the disease, there being no further soil for carrying forward the reproductive series of germs." 1. Science teaches us that these spores do not germinate except in a suitable medium; 2. That they can resist high and low temperature, boiling and freezing. True, the spores by lapse of time may lose their vitality; but if after eight years we had taken those ten combs and distributed them between ten stocks, what would have been the result?

If Mr. Simmins is correct, then his statements can be confirmed by your State entomologist, i. e., that spores must germinate in warm weather without a medium.

On page 1312 Mr. Simmins says: "When the combs with old candied honey were opened up for brood-rearing, the larvæ rapidly assumed the appearance of the foul pest." The foregoing clearly proves that *Bacillus alvei* lay lurking in the honey, and did not germinate in warm weather.

An abundant harvest and plenty of pollen, for we must not forget that pollen forms the tissues of bee life, combined with a vigorous queen (not necessarily a new queen), may apparently cure a stock; but while the old brood-nest remains with its tainted stores "bacillus is not dead but sleepeth," ready to awake when the cupboard is going bare. The last cells of honey being used, all pollen reserves gone, then is the time for the spores to break forth and assume the active bacilli. The bees may use a thousand cells of healthy stores; but as soon as the seal is broken and the food given out from the one spore-laden cell, then will *Bacillus alvei* reign rampant again.

A CURE.

We will assume that your stocks stand in pairs, say two stocks on 4 ft. with 8 inches between.

1. When the bees are gathering nectar; 2. Take a clean hive, the frames fitted with foundation; place it between the stands of Nos. 1 and 2; now take Nos. 1 and 2 to a quiet part of the apiary, using as little smoke as possible, so that the bees carry no stores from the old home; 3. Search for one of the queens; cage her, and take her to your new stock; 4. Unite Nos. 1 and 2; 5. Repeat the operation with 3 and 4, and place beside Nos. 1 and 2; 6. When brood is hatched, reduce the brood-nest to one story of the still diseased stock. The queen is usually found in one story only, usually the top, so that, when the eggs that were in the hives when united have reached the imago stage, the hive can be reduced to one story, and 7 can be put in force; 7. Burn the comb, bury the ashes; cleanse the hive; 8. Examine the new stocks for odd cells of *Bacillus alvei*, and treat as directed above.

Your apiary is now half clear of disease, and the process can be repeated till the whole apiary is clear, with very little loss.

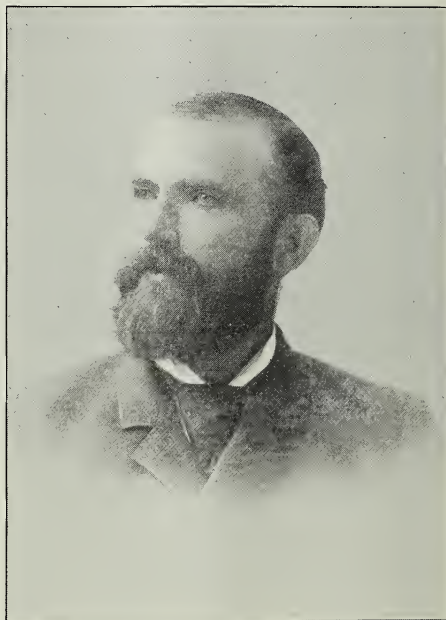
Long Caton, England.

MR. HENRY SHAFFER.

The First Foul-brood Inspector of Ohio.

BY HENRY REDDERT, SEC.

Mr. Root:—I inclose a photograph of the first bee-inspector appointed in Ohio, Mr. H. Shaffer, a member and twice president of the Southwestern Ohio and Hamilton County Bee-keepers' Association. He was appointed by the Board of Commissioners of the county of Hamilton to serve for two years, or until his successor is appointed. Mr. Shaffer is a resident of Westwood, a beautiful suburb of Cincinnati, at 2860 Harrison Ave. He was born north of Cheviot, Ohio, also a suburb of Cincinnati, 49 years ago. Twenty years he has kept bees. The last five years he has bred queens of a fine Italian strain in connection with the production of honey. His father being a farm-



HENRY SHAFFER.

er, and his neighbors keeping bees in the old-time box hives, young Shaffer naturally took to bees. He now has an apiary of 90 colonies. As a man Mr. Shaffer is easily approached, honest to the core, and he has a kind word for everybody. No better man could have been selected for the inspection of apiaries. He was unanimously chosen by the members of our society as bee-inspector, and his name presented to the County Commissioners by a petition of 85 bee-keepers—surely a token of good faith placed in Mr. Shaffer as the proper man for this work. One thing we regret is, that the legislature did not make the special

tax at least five cents per colony instead of one; but that may be remedied at the next session. One cent is hardly sufficient to do any work to amount to anything. However, we have a start, and we hope the future will teach us which course is best to pursue.

Cincinnati, O.

[The one cent will raise over \$1000. This ought to be enough.—ED.]

HOFFMAN FRAMES.

The Short Top-bars Not Liked, as There is No Finger-hold.

BY W. C. GATHRIGHT.

Mr. Root:—I have been very much interested in the discussion of the merits and demerits of the Hoffman frame. Before coming to California I used and liked the Hoffman frame; but I was a comb-honey producer. I have visited many large apiaries here, and am convinced the plain frame is best for large apiaries run for extracted honey.

These frames as made here have one inch projection of the top-bars past the end-bar. This gives one a chance to get two fingers under each end so as to get a good grip for shaking off bees. You say, Mr. Editor, that you prefer to pick up a frame by the top-bar just inside the end-bars—that is, where it is usually covered with bees, while with the long top-bar the ends are furthest away from the bees it is possible to get.

While holding the top-bar as you say, between or inside the end-bars, and shaking off bees, that would be entirely out of the question with me. It's just like trying to lift your hives without cleats or hand-holes. Our hives are made with rabbets $\frac{3}{8} \times \frac{7}{8}$, so there is a bee-space at the ends of the top-bars. The staples for end spacing are a good thing; but cutting off the ends of the top-bar to get a bee-space when they were already too short for ease of handling is, in my opinion, ruinous. Then to make the projections almost useless as a support for heavy combs, you have reduced the thickness to $\frac{1}{4}$ inch. They should not be less than $\frac{3}{8}$, and nailed through the top into the ends. This prevents splitting off the top. Most of the Hoffman frames I find about over the country are nailed only one way—i. e., through the end into the shoulder of the top-bar. They should be nailed both ways; but if only one way it is more important to nail through the top into the ends. One experiment ought to prove this to you. Take two frames, one nailed one way and one nailed the other; weight them about like a comb of honey; hold them above the hive, letting them drop on the rabbets, and see which one is first or easiest to break.

THE ALEXANDER CURE FOR BLACK BROOD
NOT A SAFE TREATMENT FOR FOUL
BROOD.

It seems to me unwise to recommend the

Alexander method of curing black brood for the cure of foul brood. While the disease might disappear for the time being, yet it would be sure to appear again sooner or later, because the combs can not be thoroughly cleansed of the germs; and, besides, there is the infected honey still in the hive. I think the mildest treatment we can dare recommend is driving a part of the bees with the queen out on to a new set of frames with starters, as by the McEvoy method; then in 21 days shake out the remaining bees into another hive prepared the same as first, giving them a young queen (burn the old combs). This method can very well be carried out during the swarming season. Thus you can double the number of colonies and get rid of the disease at the same time.

Fillmore, Cal., March 12.

[There is nothing to prevent double or cross nailing. We give our customers the option of the short and long top-bars.—ED.]



PAPA'S SWARM THAT WOULD NOT STAY
HIVED.

[Some time ago we received a photo from which the accompanying half-tone was taken. The letter that came with it seems to have been lost, and hence we shall have to let the picture tell its own story, which it does very nicely.—ED.]



THE HONEY-PRODUCING FLORA OF SOUTHERN CALIFORNIA; ORANGE-BLOSSOM HONEY.

I have carefully studied the honey flora of Southern California for the last five years, and I find the orange-bloom yields very little surplus in the cool regions near the coast; but up here at Redlands the weather is very warm, and but little fog; and four years out of the five orange has yielded a fair crop, so I have been able to select and ship one or more carloads of pure orange-blossom honey each year except 1904, all from apiaries close to this city; but even here the weather is sometimes so cool that tons of this nectar is lost because it is too cool for bees to get it.

I have seen the nectar so abundant as to daub the clothing of pruners and pickers, and even the backs of horses while cultivating. If the bloom came six weeks later, during good weather, the crop would be heavy. It usually comes on the last of March or first of April. My bees are now (April 2) on it; and as they are in excellent condition as compared with 1905 I expect to secure a good crop if the weather permits, and will try some special experiments later.

This honey was stored in April, 1905, and was obtained entirely from orange-bloom excepting a possibility of a very little, perhaps 5 per cent, being carried up from brood-combs of honey previously stored. I usually sell a carload of strictly pure orange honey at one-half or 1 cent above the price of last year's honey; but in the general market it is worth no more, as some dealers prefer the sage on account of its not candying. Orange is like clover. It sometimes yields heavily, and sometimes fails to yield any thing, even in nice weather. I have thousands of acres of orange-trees in range of both of my apiaries, just a-humming now.

F. McNAY.

Redlands, Cal.

SIMMINS ON FOUL BROOD.

I have wondered if Mr. Simmins, of England, had foul brood at all, page 22. His idea will not work here if the germs are present in the honey, of which I am satisfied they are, from my own experience; also what he says, he "put foul-broody combs into a healthy colony and they cleaned them up and did not give the disease to the colony" would almost make me say he never had it at all. I am satisfied (and I speak from experience) there is no way on earth to get rid of it save by the McEvoy method or some similar way.

H. PIPER.

Palaveras, Texas.

[If you will refer to page 807, last issue, footnote to J. E. Chambers, you will understand, perhaps, why your experience differs from that of Mr. Simmins.—Ed.]

GETTING BROOD FROM TWO QUEENS.

Referring to the plan of getting brood from two queens in one hive, page 354, I will say that, by following the Alexander method, I have lost not less than 75 per cent of the queens. About eight years ago I tried the plan of using wire cloth for the first two or three days, and then removing it, putting on the queen-excluder. Since doing this I have not lost a queen; for by the time I remove the wire cloth both colonies have the same scent.

J. K. WILSON.

Lancaster, O., March 30.

[Your plan is similar to that described on page 827 of last issue, except that you use wire cloth instead of burlap. Your trouble will be explained, perhaps, by reference to p. 659, May 15th issue.—Ed.]

IS BEE-TREE HUNTING PROFITABLE? THE SCENT OF BEES AN IMPORTANT FACTOR.

I notice in GLEANINGS for March 1 Mr. Ralph P. Fisher takes exceptions to my views regarding the profit of bee-hunting. I have helped to find four trees in half a day. There wasn't 25 lbs. of honey in the bunch. I have found two which had 100 lbs. each, but that kind is very rare. We usually hunt them here in the fall. I have transferred several from trees. I never had any of them amount to any thing. Perhaps friend Fisher transfers them in the spring, which would work all right. If we left them until spring here, the chances would be some hunter would steal them. Bee-trees with us are generally in hard places to get at. It isn't an easy task to carry a swarm of bees through the brush and over the stones for one or two miles. Friend Fisher is in luck if he can sell his bees so handy for \$5.00 per hive.

I have a friend who spends lots of time hunting bees. If he worked for 15 cts. per hour he could buy more honey than he gets from bee-trees. Perhaps an expert could make it pay, though I am still very certain safe advice for the average person is, don't do it for profit; but for a day's outing and a visit with nature and nature's God it is all right.

To those who do not believe that the bee's sense of smell is an important factor, I would like to relate the following experience: Last May I had a second swarm that came out and clustered in two places—one cluster on a limb, and the other in a pile of brush. I opened the hive and found a dozen or more queen-cells, some of them hatched. While I was holding the combs in my hands I smashed the young queens, as many as ten or twelve, then wiped my fingers on my overalls and went after the bees in the brush-pile. I found a young queen there, and in less than three minutes I had a good sized swarm of bees on my jeans. What

caused those bees to alight there? I had to go to the house and have my wife brush and smoke them off. I believe the Giver of all good gave the bees this way of telling their own.

F. P. STOWE.

Seymour, Ct., March 8.

[The scent of a queen or queens that have been killed between the fingers or mashed on the clothing as described is very readily transmitted to those parts, often to the annoyance of the apiarist. Better keep the queens off the clothing; and when the scent has been transmitted to the fingers it can be removed by rubbing them through the grass and on the ground.—ED.]

HYBRID BEES; DRONES IN COLONIES WINTERED OUTDOORS.

If Dr. Miller could not, page 345, keep pure Italians, how does he manage to keep his special strain of cross crossed bees pure enough so that they are worth while?

You mention, Mr. Editor, page 348, that outdoor-wintered bees are more likely to have a sprinkling of drones. I can not recall having seen this stated before. Why is it not mentioned as an objection to the outdoor plan in the discussion on that subject? and, by the way, why is it that outdoor wintering produces drones in excess of cellar wintering? Possibly I am rehashing an old question, but I just want to know.

Wilmette, Ill.

D. D. FARNSWORTH.

[You have read more into the language on page 348 than I really intended or the exact words convey. I do not know that outdoor bees would have more drones than colonies in the cellar; but here was the point: Drones from the latter would not be available, while those from the former, on any good flying day, would be. That was all the difference.

In answer to your first question, I do not think Dr. Miller did any thing more than to breed from his best queen, which was a hybrid.—ED.]

CAUCASIAN BEES AS SWARMERS; WOULD A FOUL-BROOD INSPECTOR CARRY THE DISEASE?

There are two subjects to which I wish to call your attention. I may be wrong in my opinion, and hope I am. First, are the Caucasian bees great swarmers? That is just the trait we do not want; and if it is added to the vindictiveness of the blacks and Italians (hybrids), when shall we get through? I have been working several years in trying to breed out the black bees, or, rather, trying to Italianize, and quite a number of my friends have bought Italians. Now, if I or any one else gets Caucasians, all this work and expense of Italianizing will be lost.

Second, if the foul-brood inspector finds some diseased colonies in Brown's apiary, and doctors them, then comes to my bees and infects them with foul brood (which I fear he would), what shall I do? It looks

as if I should be out of the bee business in a short time.

SEWARD STEFFY.

Glouster, O.

[In all that has ever been said concerning Caucasian bees I do not remember that the claim has ever been made that they were great swarmers. Is it not possible that you have the Caucasians mixed up with the Carniolans?

Any foul-brood inspector who would be so careless as not to disinfect himself when going from a diseased to a healthy yard ought to be summarily removed from his position. As these bee-inspectors receive their appointment through bee-associations largely, or through the recommendations of local bee-keepers who are in position to know of the man's competency, it is not likely that such appointee would be the means of spreading the disease from one yard to another. I am personally acquainted with many of the inspectors in the country, and I know of no person who would be guilty of spreading the disease in the manner stated. The very qualifications necessary to fit him for that position would be such that he would know the importance of extreme care.—ED.]

CLOTH OVER THE SECTIONS.

Is it proper to put a cloth on top of the sections under the wood cover? Could any harm come from it, or can I get more honey with just a board cover on super?

Tunkhannock, Penn.

J. F. COOPER.

[Cloth does no harm; but it has this disadvantage, that the bees will propolize it down to the sections, making streaks of bee-glue along the edges of the sections. The general practice is to leave a bee-space above the sections; then put the quilt or protecting case right over the super-cover that is just a bee-space above.—ED.]

WHAT DOES THE DISTANCE OF THE SOURCE OF HONEY HAVE TO DO WITH THE AMOUNT GATHERED?

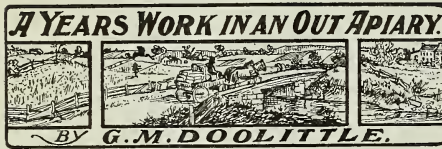
I have an outyard $1\frac{1}{2}$ miles from the home yard, in a good basswood location. What I want to know is, why do the bees at the home yard, $1\frac{1}{2}$ miles from the basswood, gather as much basswood honey as the bees that are located right in the shadow of the basswoods? There are no basswoods closer than the outyard. Who can answer this?

Burlington, Texas.

W. M. JONES.

[I can not explain your conundrum unless you are mistaken in supposing that both yards of bees are gathering basswood honey. The tree does not yield nectar every year, and sometimes only sparingly. A little smattering of basswood mixed with clover will very easily give the impression that the honey is *all* basswood unless the apiarist is an expert in the taste of the two honeys. If, as I suppose, your bees in both

yards were gathering a little basswood and a great deal of clover, and clover was equally abundant at both yards, one lot of bees will gather as much honey as the other; and even if the basswood bees gather a little more of the basswood than the bees a mile and a half away, the fact would not be noticed. To answer your question directly, it is not true, generally, that bees a mile and a half away from the honey source will gather as much of that honey as those bees that are located right in the midst of the forage. If I am correct, then, your bees a mile and a half away were not gathering as much of the basswood as those right among the trees.—ED.]



CHAPTER VII.

TAKING OFF THE SURPLUS; WHAT TO DO WITH THE UNFINISHED SECTIONS; PREPARATION FOR THE BUCKWHEAT FLOW.

It is now July 24, and the basswood bloom is all gone. With the exception of one or two days at a time, it has been rainy, cold, or windy all through its bloom. If possible the weather has been worse for the bees than during clover-bloom. If we could have had the good hot weather which came between the blooms, either in clover or basswood, a far different showing in honey would have been the result. Now that the basswood bloom is past, it is coming good weather again. While this can make no difference with me now, yet I am very glad to have it come, as it is cheering to the hearts of the farmers who have had an uphill time in securing their hay and winter wheat, much hay spoiling on account of the continued wet. Again I am off on the road to the apiary, carrying with me another supply of supers, for the buckwheat bloom is still ahead. As I go, my heart is made light through seeing the many fields on the hillsides and valleys covered with their waving grain, basking in the sunlight, while the pearly streams, being nearly at full bank from our recent rains, make sweet music in their joyous journey toward the river. The pasture-lands are nearly as green as in June, while, generally, at this time of the year they are brown and bare. The farmhouses nestle among the green branches of the trees, giving prospect of garnered fruit through the half-grown apples, plums, and pears, discernible among the sun-kissed leaves. Surely all nature is happy—why not I? I have done my best with the bees; and if a meager crop is the result, through no

fault of mine, I should be happy with what I get.

With such scenes and thoughts as these, the time passes almost too soon; and before I am hardly aware of it the horse is turning in at the farmer's roadway leading toward the bee-yard. With the horse stabled before a manger of rain-cured hay I enter the apiary. Each colony having sections on is looked after, fixing them now so they are supposed to be all right till the end of the buckwheat harvest, which is the end of the surplus-honey season in this locality. The wheelbarrow having an empty hive, bee-escape, and super of foundation-filled sections, is again brought into use, when all the fully completed supers are set on the empty hive, and the others on the empty super, the same as with my last visit. If a super is found having two thirds or more of its sections completed I think it best to take off the same, as those finished will lose in price, if left on the hive, from coloring. With those having a less number finished I used to take out those finished and supply their place with sections filled with the extra-thin foundation; but of late years the extra work involved in this has made me mostly abandon the plan. Such sections will sell for more money than they will if left on till the end of the season; but I am not sure that they will sell for enough more to pay for the extra work required in thus taking them. Of course, the whole super can be freed from bees with the escapes, then taken home, and the sections which are filled sorted out, the others being repacked in the supers and taken back to the apiary again; but this makes still more work, and an extra trip to the apiary.

These things are all right where time hangs heavily on one's hands; but with the overworked apiarist, having from three hundred to five hundred colonies in five or six out-apiaries it is better to put all supers not more than two-thirds full back on the hives again. Any super which has been worked in, yet not sufficient to be taken off, is put back first next the brood-chamber, when a super of foundation-filled sections is set top of it, over which is placed the bee-escape, and the finished super or supers on top of that, so that nearly all of the colonies will have two supers, or 88 one-pound sections in which to store from now till the end of the season. If any colony is found which has two supers partly filled, these are both put back and a third super put on, which is empty, except the sections filled with foundation.

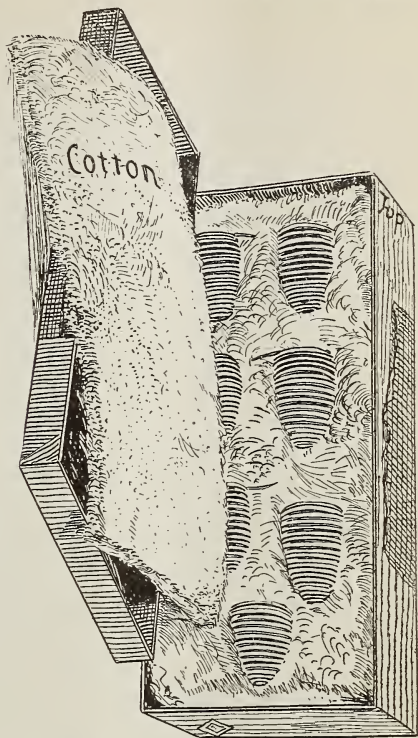
After a practice of ten years I find that it always pays to keep this empty super of sections on top at all times when there is an expected harvest, as it does no harm except the little labor of setting it on; and as often as one year in three much work will be done in it if it is not filled entirely; and it has much to do with keeping the bees from laying out or being crowded for room, thus doing away with their contracting the swarming fever, as they are quite apt to do when the other supers are nearing completion. Since using this method of keeping an emp-

ty super on top I have not had a single swarm during the buckwheat flow, without any further effort at their prevention, while before this I was bothered with nearly half of the colonies contracting the swarming fever during the first week of buckwheat bloom, they keeping the swarming up till very little section honey would be obtained.

Before going to the apiary at this time I carefully look over the standing of the beeyard as to the value of the queens in the different hives, as it is given in the little squares on my record-board, and take from the home apiary the number of ripe cells required for use in requeening all colonies having queens which do not come up to the standard of good queens. When the sections are all piled on the wheelbarrow, as given above, from a colony having a queen not considered good enough to winter over, I take the opportunity to hunt up the queen and kill her, as she is quite easily found at this time on account of so many of the bees being in the supers just taken off.

Having found the queen and killed her, the next work is to give them one of the ripe queen-cells I have brought. In taking them from the brooding colony at home, each one was placed in one of the West cell-protectors, so that the bees would not destroy the queen by cutting into the cell before they were aware that their old mother was gone. Each cell-filled protector was partially imbedded in a sheet of cotton wadding, cut to fit into the bottom of a pasteboard thread-box, easily obtained at any drygoods store. Having the number required in the box, another right-sized sheet of wadding is put over all, the cover to the box put on, and a rubber cord sprung around the whole to keep all in a secure position so that the cells can not roll around when the box is handled. One end of the box is

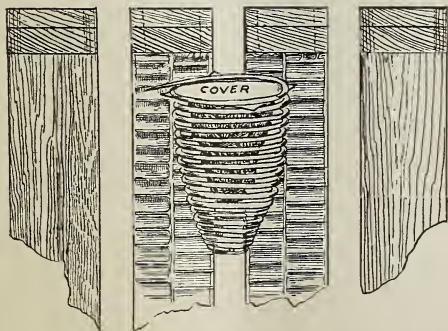
hours, and I have often carried such for from one to twelve hours, in the way here given, without the loss or injury of a single queen. In this work the wadding is far preferable to cotton batting, for the glazing



DOOLITTLE'S POCKET QUEEN-CELL CARRIER.

on the wadding keeps the cotton from sticking to the cell or cell-protector, as it is otherwise liable to do.

After killing the queen the frames are all put back in the hive, when two of the center ones are pried apart enough so that the cell-protector will go down just under the top-bar to the frame, when the frames are brought back in place again, this imbedding the protector into the comb so it is securely fastened there until removed by the apiarist. As this is the season of the year when the bees do most of their superseding of queens (it seems so natural to them), my loss in using this plan will not average more than one queen-cell out of twenty given. So small a loss will not pay for a special visit to the apiary to ascertain whether colonies so treated obtain laying queens or not—especially as the colony which will occasionally destroy a cell or kill the just-emerged virgin queen have brood of their own from which to rear a queen, so the loss is never very great should an occasional cell be destroyed. Of course, there is a chance that the young queen may be lost when going out to meet the drone, in which case that colony is doomed unless rescued by the apiarist.



WEST'S QUEEN-CELL PROTECTOR IN USE.

marked *top*, and the base of each cell is placed toward this end of the box so that I may always know that the cells point down when carrying the box in my inside vest pocket, or pocket in my shirt, where cells are always carried at all times except when used in the bee-yard where they are raised.

A "ripe" cell is one from which the queen will emerge in from twenty to thirty

In such a case as this the observing apiarist will easily discover this loss by an outside diagnosis of such colonies at a later visit to the apiary. This requeening at this time is so easily done that there is no excuse for having poor queens at the out-apiary.

The reader may think that what is here given conflicts with what I have written in the past about allowing the bees to take care of the superseding of their queens themselves. With the small and contracted brood-chamber, I still hold that the bees will take care of that matter fully as well as the apiarist can; but with this system of working, and that with ten-frame Langstroth hives, a queen will lay nearly as many eggs in two years as she would under the contraction system in three or four years; so that any queen which is more than two years old is almost sure to be played out; therefore I make it a practice with this plan to supersede all queens which are two years old at this time, and in the way given above. This plan is one of strenuousness all the way through, by which we get a multitude of bees in the field at all times during the honey harvests: and even when ordinary colonies are doing nothing, or securing only a living, these rousing colonies are actually laying up stores. Mast May, when the colonies as ordinarily worked were living only from hand to mouth, these big colonies at the out-apiary actually laid up from 20 to 30 pounds of stores in the combs above their brood. And then when other colonies were working a very little or not at all in the section supers, these were completing their first 44 sections, and well at work in the second super of 44 above. Such work as this is enough to cause the queen to produce all the eggs in her ovaries in about two years; and as the work of superseding as given above is easily done, I think it well pays to kill any queens when two years old, and give a cell to the colony, unless it is a queen that has proven herself of extra value, when I would keep her to breed from the next year, should she live through.

Having the hives all ready for the buckwheat harvest, the poor-queen matter disposed of, and the completed supers on the escape-boards, I next attend to any and all the minor things about the apiary that need attention, when the honey is loaded and a start for home is made. If there is more honey than can be carried at one load, it is left right on the hives over the escape-board till I can conveniently come after it; for it is just as safe there as anywhere it can be left, unless we have a building at the apiary for the purpose of keeping honey, which I do not, nor do I consider it needful. If I feared the work of thieves, I would take this honey to the farmer's house, or go back immediately for it; but as it is, I often leave it over the escape-boards for a few days or a week, till some convenient time comes to bring it home.

In the above I have given the reader the work done during the seventh visit to this apiary.



Bless the Lord, O my soul, who healeth all thy diseases.—PSALM 103:3.

Know ye not that your body is the temple of the Holy Ghost which is in you, which ye have of God, and ye are not your own?—I. COR. 6:19.

Just at the present time there seems to be a great number of "hold-ups," or at least there are a great number of them in our large cities in and around our State of Ohio. These ruffians come to a man and say, "Your money or your life;" and of late the fashion seems to be for two and a great many times *three* of the ruffians to pounce on one man, generally unarmed and unprotected. Of course, they are *cowards* as well as thieves and blacklegs, and sometimes one man with grit enough has put to flight his two or even three assailants. This is a terrible thing, friends, in an enlightened country like ours, especially when it is done in broad daylight, where people are around, and sometimes not very far away. But please do not think me extravagant when I say there are *worse* things than this going on right under our very noses. The outlaws of whom I have been speaking, under the influence of drink, say, "Your money or your life" as they point a loaded revolver at your face. This other class of people that as I have said are still worse, say by their actions, if not words, "Your money and your life." But even that is not all. The windup many times results in not only loss of money and loss of life but also loss of soul as well as of body; and these fiends in human shape take money, body, and soul, and hold up not only men, but *women* and *children* as well. Do you think your old friend A. I. Root is becoming extravagant and sensational? Well, let me submit the matter to you. Which individual is worse—the one who points a revolver at you, and says, "Your money or your life," or the one who deliberately sells your boy cigarettes with the end in view of creating an appetite so the poor child can not get along without them, utterly indifferent to the fact that he may soon go down to an untimely grave, or go into an asylum, commit suicide, or do something else as bad?

Notwithstanding all that is being said and done, the work goes on. Our sister State of Indiana has ruled out cigarettes. You can not buy, sell, nor give away nor even smoke one on the streets without getting into trouble. May God bless Governor Hanly, and give us more governors like him. In Illinois, however, they have tried again and again to get an anti-cigarette law; and while nine-tenths of the people are in favor of

such a law the millionaire manufacturers of cigarettes manage to block the way just as they are blocking the way of a parcels post, reforms in the insurance business, meat trust, Standard oil, etc. If we can keep God-fearing men like our President at the head of our nation, and get all good men and women to stand by him, something is going to be done. May God help us!

Well, it is not the cigarette business that I had especially in mind when I sat down to write this paper. The druggists of Cleveland are continually evading or defying law in selling stimulating drugs to men, women, and children. Our asylums are being filled with them. The only motive or incentive in all this iniquitous business is to get money — money, money, money. Now read this quotation from the July number of the *Philadelphia Farm Journal*. It is rather long, I know; but it should be read over and over by every man, woman, and child:

A TWENTIETH-CENTURY CRIME AND ITS RESULT: BY
F. W. ST. JOHN, M. D.

In the issue of *American Medicine* for January 13 there are published thirteen letters and two newspaper clippings that should be read by every person interested in the welfare of the community. It would require too much space to reproduce them here, but the following are the facts in the case: Mary Lee, the daughter of a clergyman, was considered by her family physician, Dr. Saunders, to be suffering from incipient tuberculosis. By his advice she consulted Dr. McGee, a man of wide experience in the treatment of lung trouble, who confirmed the diagnosis of Dr. Saunders, and who recommended Miss Lee to enter a sanitarium for treatment.

Being a personal friend of the Rev. Mr. Lee, and knowing that his circumstances were such that he could not well afford the expense connected with his daughter's stay at the institution, Dr. McGee wrote to Dr. Scott, the sanitarium physician, to receive Miss Lee, give her the best room at his disposal, and send a bill of one-half the weekly charge to Mr. Lee and a bill for one-half to himself, as he was very anxious to do all in his power for the daughter of his friend. After some correspondence, Miss Lee was installed in a good room at the sanitarium, and Mr. Lee received a weekly bill for \$8, the same amount being charged to Dr. McGee, Mr. Lee believing that the one-half reduction was made by the sanitarium physician. After a few weeks' residence the girl improved in health, but thought that the restrictions as to diet, open air, etc., were hard to live up to. This belief she communicated to her mother.

In the meantime, Mrs. Lee received a letter from a charlatan in Chicago, who said that a mutual friend had informed him that her daughter was at a sanitarium for treatment for tuberculosis, and that it was useless for her to remain there, as he had an infallible cure for the disease which could be taken in her own home, without any restrictions as to diet or anything else, and at a cost of only \$10 per month. He also intimated that Dr. McGee was getting a bonus of from \$2 to \$4 per week from the \$8 which was being paid to Dr. Scott. The Rev. Mr. Lee objected to having any thing to do with the Chicago man; but the mother and daughter took the bait, and, as a result, Miss Lee returned home and began the downward road to the grave. The medicines sent her stimulated and buoyed her up, and she believed herself to be recovering. This belief she expressed in a very thankful letter to the Chicago doctor (?). Notwithstanding that she had several hemorrhages from the lungs and was losing in weight, the scoundrel told her that this was an effort on the part of Nature to rid her of the disease, and that she would soon be all right. In a few weeks Mary Lee was dead.

Three years later there appeared, along with the Chicago man's advertisement in a newspaper, the last hopeful letter written to him by Miss Lee, as a testimonial of the great benefit she had received from his medicines. Near this letter, in another column of the same paper, there appeared a statement to the effect that a boy who had stolen fifty cents had been sentenced to six weeks in jail at hard labor, as this was his first offense. The Chicago rascal did not get even six days, as he, in the eyes of the law, had committed no crime.

This is only one page from the daily record of what has for years been going on in this country. Is it a wonder, then, that the people are aroused? Is it a wonder that, though entrenched behind their millions, these humbugs are beginning to shake in their boots when they see that in the name of humanity a relentless war has been inaugurated against them? There is room for every volunteer in this work; and not until many sacrifices have been made, and many hard battles fought, will the hydra-headed monster of charlatanism down, and down for good.

There are several things in the above to which I wish to call your attention. Rev. Mr. Lee did the right and proper thing in regard to the care of his daughter. He consulted the family physician; and this physician, to make sure, called in another physician of wide reputation, a personal friend of the minister and his family. This Dr. McGee is certainly a good Christian man, and an honest one, or he would not have undertaken to pay half the expense. We get a further glimpse of his Christian character in that he did not let the minister know that he took this money out of his own pocket. Now, this Chicago charlatan had no scruple about poisoning the minds of the minister's family by suggesting that Dr. McGee got a "rake-off" of from two to four dollars a week out of eight dollars. It is strange that people will listen to a quack, and believe such silly stuff. And, by the way, there is a tendency just now to jump at conclusions or to listen to foolish gossip hinting that many good innocent men are probably getting a graft or bribe. Why, not long ago I heard a minister of the gospel say that the Anti-saloon League was about as big a graft as we had in the country, and that nobody knew what was done with the great sums of money that were being subscribed. He said that, too, in a crowd of good intelligent people. If the saloon-keepers and liquor-dealers should repeat such nonsense we could forgive them; but anybody who knows any thing about the Anti-saloon League surely ought to know that, like all other Christian institutions and organizations, they keep an accurate account of every penny that is taken in and paid out, which is published annually in black and white in the *American Issue*.

Do not jump at conclusions when somebody suggests grafts. Examine into the matter, and see if the man who talks graft right and left has not an ax of his own to grind.

Well, the mother and daughter prevailed. They listened to the Chicago quack, and took his medicine. The girl felt so much better that she wrote a letter of thanks to the quack doctor.

Here is another thing, which I almost overlooked. She informed this quack doctor that she was having hemorrhage of the lungs, losing in weight, etc., supposing he was, of course, interested like her own family physician and the sanitarium people. Did he care? Not at all. After her death he kept right on for three years publishing her letter that she sent in when she first felt the effect of his stimulating drug. Why, this is worse, if possible, than the

Duffy malt whisky people. They manufacture forged letters purporting to come from people toward a hundred years old. They have been shown up repeatedly, but it seems to make no difference. They have discovered that their lies travel faster, and go where the truth can not possibly follow to stop their forgeries and falsehoods.

Look here, my friend, do you know how many medicines there are nowadays that are offered absolutely free of charge? You are not to pay a copper until you are better. When you are better, then you pay something or buy some more. Well, perhaps not *all* of these medicines depend on some stimulant like opium, cocaine, or something of that sort; but a large number of them do. I have been trying so many of them that Mrs. Root says I will kill myself in testing medicines. But I am sure I shall not, for God will help me while I test them, in order that I may talk intelligently in these Health Notes. At a gathering of the whisky-men several years ago the speaker exhorted his hearers to remember their customers were dying off all the time; and he said they should commence with the boys and "create an appetite." Now, these quack doctors are creating an appetite. They get to be millionaires in the business. They give away samples of their vile drugs until their patients can not get along without them. Then they get his money and send him to a drunkard's grave or, may be, to a worse place. When you get exhilaration by outdoor exercise, by a cold-water bath, by a drink of pure spring water or a glass of milk, it is all right; but beware when you get into a fashion of depending on powerful drugs. A certain person in our own neighborhood found out that he could get vim and enthusiasm by the use of headache powders. He pretty soon became satisfied that these powders were going to be his ruin, and confessed as much to his wife, and said he was going to chop right square off, no matter what it cost him. But he deceived his wife after that. He kept on with the drug until the family were obliged to send him to an asylum; and in a few weeks he went out of that asylum—*cured*? Not much "cured." He went out of that asylum to the cemetery. These fiends in human shape ransack the earth for stimulating drugs. Samples are not only coming to me by mail, but they are laid on my doorstep. Do not take any thing which is not sanctioned by your family physician. Cultivate the acquaintance of your nearest doctor. Make him your friend and adviser; and do not be backward about paying him for his services, even if he does tell you something that you knew already and had forgotten. Pay him his usual fee. A relative of mine who is a physician says people have got into a fashion of thinking that the doctor *ought* to give the people advice free of charge that will enable them to get along without a doctor; and the great progress that is being made just now in the way of prevention instead of cure is making it "hard sledding" for the doctor. He is generally put on the board of health

to look after the sanitary conditions of the town, and is expected to advise the people, collectively and individually, how to avoid being sick; and then when they get their arrangements so there is nobody sick in the town at all, the doctor's occupation is, to a great extent, gone. He does not get any money for what he *has* done, and I am afraid, dear friends, he does not even get the thanks of the people. Look out for your family physician as you would for the pastor of your church. See that he is not forgotten and neglected when he is laboring unselfishly for the good of humanity. If you have any money to spare for medicines, give it to the good doctor. Do not send it to some city quack who would just as soon see you in your grave within the next three weeks as not, providing he can get a good slice of your hard earnings.

A few months ago I saw an advertisement in one of the papers that just exactly hit one little trouble I was experiencing in my old age. Just for the fun of it I described my symptoms. A very kind letter (?) came, informing me that the great physician was so overwhelmed with business it would be several days before he could get to my case; but he kindly asked me to be patient. The average person would have taken this to be a personal letter; but I saw at once the whole thing was printed, but carefully worded, of course. In a few days the great "M. D." said that, as my case was peculiar, he had spent a great part of one forenoon over it; and in perplexity he had called in *another* "great expert." Together they spent the afternoon, and finally decided that I could not live more than a little while if I did not have relief at once. It was a *grave* trouble. This, like the other letter, was, of course, printed. In a postscript the good doctor added that about \$25.00 would fix me up in good shape. In about a week I got another letter saying that he and his learned friend felt troubled about me because I did not respond; and as it might be that I had difficulty in raising the \$25.00, he had decided (out of the goodness of his heart) to stand \$15.00 of it himself. If I would only send him \$10.00 the medicines would come by first mail. Well, I let this letter drop to see what *more* was coming. About once a week appeals of different kinds kept coming. You see they were anxious about my critical condition. Finally one came begging for some acknowledgment of some sort, even if it were but a few words on a postal card. Then I replied something as follows:

"My good friends, if there is any doctor of any sort belonging to your institution who cares to take the trouble to write me a personal letter I shall be very glad to receive it. But you are just wasting your postage-stamps in sending me printed blanks purporting to be type-written letters. We are pretty well posted here, and think we can distinguish a personal letter from a printed one picked out from a pile of blanks. We may be mistaken, however, for the imitations now are getting to be so well done they

may baffle even an expert." Of course, I never heard from them further.

Now, friends, do not be humbugged or misled. All around me I find people who have been receiving these humbug imitation letters. Yes, some of my own relatives hold up these printed letters and say, "Why, Amos, you surely must be mistaken. Here is a letter right from the doctor himself, and I *know* it has been written to me. See the different places where he speaks of my special trouble, and of the money I have sent him, etc."

I often have hard work to convince them that the letter they are holding up would apply to hundreds of persons. The *amount* of money sent is not mentioned, nor the name of the trouble. The letters are very ingeniously made to fit a large number of cases. These quack shops have great piles of such letters. A stenographer looks them over and picks out one that will fit the case best. In fact, the stenographers, who know no more of medicine than a dog does of astronomy, do the whole business. The head of the firm can go off on a vacation, and the clerks run the whole medical sanitarium just by printed blanks, and they rake in the money during the proprietor's absence until he gets to be a millionaire. These bogus sanitariums send out "health journals." Of course, they are gotten up in fine style, and pretend to be periodicals devoted to the good of humanity, etc. But if you will notice the wrapper you will see a stamp on it. The Postoffice Department will not receive them as they do genuine magazines, so the postage has to be paid on every number. Now, look out for these humbug magazines. They are not magazines at all. They are just swindling pamphlets to puff this particular doctor. Only a few of our papers and periodicals are exposing these quacks, because the fellows pay them big money for advertisements in their own columns; and when they accept this advertising they are under contract not to let any thing go into their reading-columns that will hurt the business. Read *Collier's Weekly*, *Ladies' Home Magazine*, and the various agricultural papers that are helping to expose these frauds. The reason the law can not get hold of them or does not get hold of them is exactly the same as the reason why the law can not banish cigarettes in all the States as they have done in Indiana. These rich fellows manage with their money to get Representatives and Senators at the head of our government who will block any movement to break up their traffic. The *New Voice*, in commenting on the matter a few days ago, remarked that we had got one Senator in the penitentiary; another one (worth about six millions) committed suicide, and the third has been *expelled* from the Senate. It looks just now as if the people were soon going to have the privilege of voting straight for both Representatives and Senators. God hasten the day! May he sustain and strengthen President Roosevelt in pushing reform measures as no other President has ever done before him.



DOCTORING WITHOUT MEDICINE.

Yesterday, June 8th, I had a very severe attack of acute inflammation. Now do not get impatient, and grumble because your old friend has so much to say about his pains and aches. I do not know why this special pain and ache came or what brought it about unless it was that God sent it in order that I might tell you something more about "God's medicines." Do you remember that, when the people asked whose fault it was that a certain man was born blind—that of his parents or himself—the Savior said that neither he nor his parents had sinned, but the affliction had been permitted that the works of God might be made manifest. Well, I groaned and bore it as long as I could—that is, after trying all the remedies I could think of. I never had had such a trouble before, and I did not know but it might be diabetes, Bright's disease, or some of these other awful things most of you have heard about. Of course, I prayed for deliverance, as I always do in times of trouble. I do not know that I would have sent for a doctor had it not been for the fact that the children insisted on it. They said it was dangerous business to let such a thing go. Right here comes in one very good reason why we should send for a doctor, some good man whom we are acquainted with who makes it his business in life to give us relief from our pains and aches. The doctor said right away that I need not be worried or troubled. He said it was a simple matter that could be easily managed. But I almost interrupted him something as follows:

"But look here, doctor; this is just now something pretty serious; it is most excruciating. I do not suppose it is in your power to wind it right up all at once; but how long have I got to stand it as it is now?"

He smiled good-naturedly and replied, "You have not got to stand it at all. We can wind up every bit of the pain in just about three minutes."

I do not need to tell you the rest he said. It has no particular bearing on what I wish to teach you; but let me explain right here that somehow when such troubles come to me in my old age, especially when my nerves are all racked out of shape, as it were, I begin to think it is the natural result of old age, and that I have got to take my share of it as everybody else does; that my life is drawing to a close; that my Home Papers will soon be wound up—that even the doctors can not do much with such a trouble as I have *this* time. I do not know but I begin to lose faith in God somewhat, and in his loving kindness and wonderful gracious

promises in his holy word. I am ashamed of myself, and I am ashamed to make this acknowledgment; but as the rest of you have passed through similar trials, my talk may be helpful to you.

Well, let us get back to our heading—"doctoring without medicine." The pain was stopped almost instantly, without any medicine at all. He told me to get into the bathtub and sit in water just as hot as I could bear it; have a tea-kettle of boiling water handy, and keep the heat up almost to the scalding point. I laughed when he told me what to do, because I knew it already, and had talked it to people right and left for thirty years or more. Almost any sort of pain in any part of the body can be instantly relieved if you can get the part where the pain is in the hot water, and keep the water hot enough.* Make it so hot that the patient begins to "growl," and then see him smile if you ask him if the pain is letting up. I took this hot-water sitz bath for fifteen or twenty minutes; then I did not have any more pain till just before bedtime. Another treatment of fifteen or twenty minutes relieved me so much that I went to bed and went to sleep, and did not wake up once till daylight. To my great astonishment the "seat of war" where there had been such a turmoil and carrying on the day before was perfectly tranquil and quiet; in fact, there was nothing to indicate the locality of the trouble.

I hope you will bear with me a little further while we discuss what brought it about. The doctor said it was the result of a sudden acute attack of dysentery. As some of you may say that was the windup or outcome of my new diet—grains, nuts, and fruit—I want to say the doctor said my diet was all right, and had nothing to do with the disturbance. On the contrary, said disturbance was more likely because I was *not* sticking to the diet. I think this special doctor is orthodox, too, because he is the one I once introduced to my good old mother, saying, "Mother, here is a doctor who does not drink, swear, nor use tobacco in any shape." That was several years ago; but this particular doctor stills hangs on to his peculiar notions of what a doctor *ought* to be. Now, I hope I shall not hurt anybody's feelings by saying that I wish I could introduce every doctor in our land to his various patients with the same or a similar introduction.

* Now, lest some of you may say you have not got an up-to-date bath-tub, etc., I think I will explain that my second treatment was without the bath-tub. I wanted to arrange it so I could read my papers, and Mrs. Root found a large-sized tin pan that I could sit in comfortably, and it answered the purpose exactly as well. Very likely it was not a *dignified* position, but I think we can let dignity go for a while when excruciating pains assail us. If the idea of sitting in a tin pan of hot water sounds almost too ridiculous, you can have some kind of dressing gown to put around you and cover you up, especially if you are obliged to be among folks while you are taking your "sitz bath."

AUTOMOBILING ON SUNDAY, ETC.

After I had closed the Home Paper in last issue I came across the following in

the Philadelphia *Farm Journal* which that paper quotes from the *Public Ledger's* New York correspondent:

"Reports of the heartlessness of automobilists who run down pedestrians and scurry away without waiting to see whether their victims were badly injured, are frequent enough; but vastly worse as well as startlingly novel was the conduct of automobilist after automobilist, over on Long Island, on Sunday, for it is said that not until vain appeals had been made to ten of them was one found with heart enough to take to the nearest hospital a young woman who was lying by the roadside with a fractured skull, and to all appearance at the point of death. As it happened, she had herself been thrown from an automobile that had collided with a telegraph-pole, and the other automobilists might have been expected to show special sympathy for one suffering from an accident which could befall themselves any day. But seemingly they did not have a special sympathy, or any sympathy at all. Instead they showed, according to report, a strange coldness and brutality almost unknown among human kind."

It seems as if the above must be a mistake. My experience with people who drive autos has been that they are all remarkably ready to stop and offer assistance to any brother autoist; but, of course, I have had no experience with *Sunday* touring; and if it is really true that all the worst characters who handle automobiles are sure to be out on Sunday, then the above is a tremendous argument in favor of having all good people let their automobiles rest on God's holy day. Going to church with them is, of course, an entirely different matter; and those who use them as they do carriages for going to church certainly do not scorch on the way nor behave in an unchristianlike manner in any respect. Once more let me repeat—what kind of crowd do you, my friend, want to be classed with?

CANTEENS IN SOLDIERS' HOMES RULED OUT.

Mr. E. C. Dinwiddie, National Superintendent of the Anti-saloon League, just now sends us full particulars of a long and earnest debate as to whether soldiers' homes, State or national, should continue to keep up the canteen. The result was almost two to one in favor of ruling them out. May God be praised for this victory, even if it has been long in coming.

COONS, MOSQUITO-HAWKS, ETC.: ALSO A SHORT SEQUEL TO MY CHICKEN STORY OF LAST WINTER.

Friend Root:—A bunch of coons raided our chicken-roost, got about fifty of them—the two hens with the big broods, chicks and all. I trapped three of the coons, but there are some more.

You know I was skeptical about mosquito-hawks doing much damage; but I give up. They came in swarms last week, and would take bees right over the hive I was working with. I lost seventeen young queens in three days. The bees just quit work, and stayed in the hive. The A B C said the hawks are easily frightened. The children and I went for them with large palmetto fans, and killed them by the hundred; but they kept right on for about a week, then disappeared.

The bees from the young queens are about as gentle as the old one. I handle them without smoke. We are glad you can take all the young queens. When we got your first letter we were having so much bad luck we felt a little blue; but this week the mosquito-hawks are gone, and we just finished extracting 92 gallons of nice honey. Your letter to-day makes things brighter.

Your shrubbery, trees, etc., are all doing well except the strawberries and Japanese persimmons. They are dead. The papaya is looking extra nice, and the mulberries look well.

I. T. SHUMARD.

Osprey, Fla., May 26.

Special Notices by A. I. Root.

A SELF-WINDING CLOCK.

Ever since the advent of the dry battery, especially since batteries of so much power have been offered at so low a price, I have been predicting that we should have timepieces very soon run by dry batteries instead of daily or weekly winding. This has been done to some extent for several years with jewelers' regulators; but I have only just now gotten hold of a timepiece for every-day use that winds itself. They are made by the National Self-winding Clock Co., Champaign, Ill., and I believe they are now on sale by all first-class jewelers. If your jeweler does not keep them the company will send you particulars, prices, etc. The prices are but little more than for an ordinary eight day clock. The batteries will run them a year or more, without any care whatever. The clock is more durable and more accurate, because there is no great strain or power on any of the machinery. A very light steel spring, something like what runs a lady's watch, carries all the mechanism. This light spring will carry the works only 8 or 10 minutes; then this bright enterprising little battery goes to work to wind the spring up again, and so on. A similar device winds up the striking part.

CLOVERS, AND HOW TO GROW THEM.

The above is the title of a new book bound in cloth, 337 pages, that has just come from the O. Judd Co. It is the first good-sized book that the world has ever had, so far as I know, devoted entirely to our clovers; and as clover is almost if not quite the sheet anchor of good farming, I welcome this book as a valuable accession to our rural publications. I think it would pay big for every farmer to get and read it over and over. It discusses briefly the new "bacteria" matter of "nitrogen nodules," and I guess it is about correct in regard to it. Of course, the book is largely devoted to the medium and red clovers. There is a long chapter on alfalfa and another on alsike, and still another one on mammoth, a shorter one on crimson clover, and a considerably long one on white clover. The value of the different clovers for honey is touched on in many places; and it very clearly refutes the notion that sweet clover ever ought to be classed as a noxious weed. The Japan clover that has been inquired about several times of late is discussed very fully; but it does not tell whether or not it is of value to the bees. My impression is it must be, under favorable circumstances. The book is by Thomas Shaw, perhaps as good an authority as we have at the present time in matters of this kind. Now, the book looks like a \$1.50 one; but I am glad to tell you that we can furnish it at the very reasonable sum of 90 cts. or \$1.00 if wanted by mail.

PEACHES FOR HOME AND MARKET.

The above is the title of Bulletin 170, from our Ohio Experiment Station. It is full of half-tone pictures taken of the trees themselves at different stages; and the information it gives for the early management of peach-trees, especially pruning, is worth a five-dollar bill to me if I could not get the pamphlet otherwise. It corroborates nicely the conclusions I had been coming to in working with my peach-orchard of 100 trees in Northern Michigan. Let me go over it briefly:

Clean cultivation is perhaps the cheapest and best when your land is level or pretty nearly so, to be followed in July with some cover crops such as soy beans, cow peas, crimson clover, etc., to be turned under the following spring. If your land is hilly, mulching does quite as well. Cover the ground all around the tree, at least as far as the branches grow, with straw, clover, grass, weeds, or any thing that will smother all growth. This is the plan I have practiced myself. There are two objections—mice, and the danger of fire getting at it. No mice have ever meddled with my trees so far; but they are right on the edge of the woods, and the mice probably get plenty of feed elsewhere. No fire has ever gotten in except once, and that damaged one tree a little but did not kill it. Now in regard to pruning:

You must prune your trees regularly every spring if you want to keep down dead limbs and long sprawling branches. Keep cutting back the new growth a half or a third; and when the trees begin to bear, when the buds are out enough so you can see how much fruit is setting, thin the fruit by a severe cutting back. A combination of thinning by both pruning and hand-picking seems to be best; but pruning should be so managed that you never have a great lot of peaches away on the ends of long sprawling limbs to break your trees down and ruin them. In fact, old neglected

trees that have become unsightly and useless may, by judicious and intelligent pruning, be made so as to look very much like handsome young trees, and do a lot of service.

This bulletin tells the whole business by means of a lot of beautiful pictures; and then there is a discussion of varieties, that ought to be worth much to a good many people. Why, my friend, if you have only one peach-tree you ought to have this bright up-to-date little treatise on growing peaches. Address Experiment Station, Wooster, Ohio.

DECORATING OUR DOORYARD; TREE PEONIES, ETC.

A year ago I wrote up tree peonies, and there was quite a number of inquiries as to where they could be found. I mentioned that Storrs & Harrison, Painesville, O., said they were very difficult to grow, etc., but I finally purchased three plants of Good & Reese, Springfield, O. I think they cost about 50 cents each. They were rather small and insignificant-looking, and I did not expect much of them. This spring, however, to my surprise they were "up and dressed" almost before any thing else, and all three are making strong rank thrifty plants. I also bought eight of the low-down peonies for about 20 cents each. They also started well, every one of them, and two of the plants have given us some beautiful blossoms.

Now, there is one more beautiful flowering plant that I want to mention, that stands over winter and takes care of itself. It is the campanula, known in many places as "Canterbury bell." I bought half a dozen of these plants from G. W. Park, LaPark, Pa., at an expense of only 4 cents each, selected from his collection of plants. Just now they are covered with cup-shaped blossoms of different shades, and I think they give more beauty for the money than almost any other plant I know of. They attract much attention because they are not very common—at least in this locality. We also bought of Good & Reese, Springfield, O., half a dozen Japanese maples that have now wintered safely two winters planted on the north side of the house; and the blood-red ones are as handsome as flowers, and they are *always* in bloom. I think they cost about 50 cents each; and if they prove as hardy everywhere as they have here, I should consider them a wonderful acquisition in the way of ornamenting your grounds.

T. W. BRYAN, FICKLIN, ILL.

Mr. Bryan is still at it—see page 762, June 1; and the *Missouri Valley Farmer* is still at it. Here is the latest, which we clip from the *Farmer*:

NATURAL SWARMING.

I am thoroughly convinced that natural swarming is the only successful way to increase your bees. In the hands of an expert, artificial swarming can sometimes be made to work successfully, but no beginner should attempt it. One has only to pick up a bee journal or the old-fashioned bee books, which were written 25 or 50 years ago, to find all sorts of plans for swarming and handling bees. We hear of all sorts of methods, such as clipping the wings of the queen; also patent swarm-catchers, queen-traps, and a lot of other nonsense. As stated some time ago in this paper I have long since turned all such propositions down. If my readers will only stop a moment and ask themselves why it is that so many bees run off; why it is so many bee-trees are found, and if a swarm of bees in running off just happens to hit a hollow tree, common sense will answer the questions. It was not a "happen so" at all that the home-seekers of that swarm found a hollow tree. They were attracted to that particular spot by certain laws of nature which govern the honey-bee as well as every thing else in nature's plan of life. It took me years to learn just how to prepare and fit up empty bee-hives so as to attract and catch my own swarms of bees. My booklet, which is fully protected by a copyright in 1904, will teach you just how to prepare your hives placed in your own dooryard so as to attract and catch swarms.

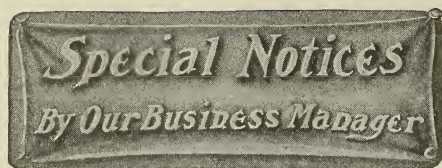
We give place to all this because letters are coming in almost every day, asking if we advise sending Mr. Bryan a dollar, etc.

THE NEW GOVERNOR OF OHIO.

When the Lieutenant-governor was informed of the death of Governor Pattison, and told that he must now take Pattison's place, he replied:

"I can only say that I will do my duty as God gives me power to see it."

May God grant that we may have more Governors who can honestly make the same declaration.



July is, perhaps, the best time to sow crimson clover.—A. I. R.

BEEWAX MARKET.

Until further notice we will pay 27 cts. cash, 30 cts. in trade, for average wax delivered here. We have quite a large stock and expect to see lower prices before another season.

THIRD PHOTO CONTEST.

Be on the lookout for good photos. In next GLEANINGS we will announce another contest, with new and larger premiums than ever before. We want photos that will interest GLEANINGS readers, and are willing to pay for them.

FIRE.

The York Honey and Bee-supply Co., of Chicago, had the misfortune to be burned out on June 20. They occupied the second floor at 141 Ontario Street. The fire started in the basement, and resulted in an almost total loss. They were fairly well insured. They have located at 191 East Superior Street, with a new stock ready for business again as before the fire.

SECOND-HAND CANS.

We have something over 100 cases of good second-hand 60-lb. honey-cans, two in a case, which we offer at 40 cts.; in ten-case lots or more at 35 cts. each. We do not recommend second-hand cans for choice grades of honey; but they answer nicely for dark or off grades, and make the cost of the package for such honey proportionately less.

THE NATIONAL CO-OPERATIVE SUPPLY COMPANY, OF LANSING, MICH.

If any of our readers have sent money to the above firm, and have not received an equivalent, I wish they would please let us know about it. One of the firm has "gone wrong," and a reorganization is being effected. If they do not eventually "make good" we should like the particulars.—A. I. R.

HALF-POUND TUMBLERS.

There seems to be an increasing demand for a cheap tumbler to put up a half-pound of honey to retail at 10 cts. We have secured a stock of such tumblers at a price which enables us to offer them at \$4.00 per barrel of 24 dozen. This is less than 1½ cts. apiece. For less than barrel lots we can not repack them for less than 25 cts. a dozen; or we will put them up 3 dozen to the case with partitions ready to reship when filled, at 75 cts. a case; 10-case lots at 70 cts.

HONEY WANTED.

As soon as any of our readers in this or nearby States have any new honey to offer, either comb or extracted, we should like to hear from them. There has been a dearth of comb honey for several months. We generally have a good demand for choice comb early in the season. Many put off the cleaning and casing of honey for market till after other pressing work is out of the way, and there is less danger of its being infested with the

moth-worm. There ought to be enough prepared to satisfy the early demand. When you have extracted to offer, send a sample, and name price asked; also state how put up.

SECOND ANNUAL FAIR CONTEST.

Last year we were represented at a large number of county and State fairs. This season we wish agents in twice as many places soliciting subscriptions to GLEANINGS. Besides our regular commissions we will offer a special cash prize of \$10.00 to the party sending the largest number of names, \$5.00 to the second, \$3.00 to the third, \$2.00 to the fourth, and a cloth-bound A B C to the next six largest lists of names obtained by our agents. Full particulars in next GLEANINGS. Write us at once asking that the fair you attend be reserved for you, as we appoint only one agent at each fair.

SIMPLEX AND NO. 25 JARS.

We are now prepared to offer Simplex and No. 25 jars in partitioned cases of two dozen each, ready to reship, when filled, at \$1.00 per case; ten-case lots or over, at 95 cts.; fifty-case lots at 90 cts. We can ship either from Medina, Chicago, New York, Philadelphia, and, after Sept. 1, from Mechanic Falls, Me. The first lot of Simplex jars we received were somewhat defective, and gave a little trouble in some cases by not sealing tight; but these defects have been overcome. That old stock has been disposed of, and what we now offer are perfect. They hold 1 lb. of honey, and are the most desirable package we know of.

TERRY'S NEW BOOK—"WHAT I SEE, DO, AND HEAR;"—ERROR IN PRICE.

When I wrote the editorial on page 839, last issue, I had in my hand a cloth-bound book with the above title, sent me by the publisher. The price was printed "50 cents" on the title page; but I am informed by the publisher that this was a mistake. The price is, in cloth, \$1.00; paper, 50 cents, postage prepaid. Terry's "Our Farming" is the same—cloth, \$1.00; paper, 50 cents, prepaid. I very much regret this mistake, but of course the error was one made by the publisher and not by myself. Under the circumstances we shall be obliged to fill orders with the paper-bound books instead of cloth. Will those who have ordered the books please make a note of this?—A. I. R.

SPECIAL PRICE ON HONEY-CANS.

As we have an overstock of cans for honey we make the following special prices on cans from Medina, to reduce stock. If ordered from any of our branches or agencies east of the Missouri River, add 5 cts. a box or 50 cts. per 100 cans to cover freight to those points.

| No. in a box. | Capacity of each can in gallons, | in honey. | Price of 1 box. 10 bxs. | Wt. of 1 box. |
|---------------|----------------------------------|---------------|-------------------------|---------------|
| 1 | 5-gal. can | boxed 60 lbs. | \$ 50 \$ 4 50 | 10 lbs. |
| 12 | 5-gal. " | " 60 " | 75 7 00 | 15 lbs. |
| 10 | 1-gal. " | " 12 " | 1 25 12 00 | 20 lbs. |
| 12 | 1-gal. " | " 6 " | 1 25 12 00 | 20 lbs. |
| 24 | ½-gal. " | " 3 " | 1 75 16 50 | 25 lbs. |
| 100 | 1-gal. " | " 12 " | 10 00 95 00 | 110 lbs. |
| 100 | ½-gal. " | " 6 " | 8 00 75 00 | 80 lbs. |
| 100 | ¼-gal. " | " 3 " | 6 00 55 00 | 60 lbs. |

In lots of 50 boxes or over we will furnish the 60-lb. cans, two in a case, at 65 cts. a box.

Convention Notices.

The Saline County Bee-keepers' Association will meet at Malta Bend, Mo., July 14, 1906. M. E. TRIBBLE.

CAUCASIAN QUEENS.

Try one or more of my gentle Caucasian queens, said to be the gentlest race of bees in the world, having a sting. The demand for these queens is good; in fact, orders are rolling in now. All orders filled in rotation, as received. Special prices on large orders. Untested, \$1.25 each; warranted tested, \$3.00 each. Ready in June. I control all bees within three miles of my apiary, and can promise pure stock. A few choice nuclei can be furnished with a fine queen, when wanted.

Money-order office, Olive Branch, Mississippi.

W. T. LEWIS, Lewisburg, Mississippi.

BANKING BY MAIL

Depositors in all parts of the country find our method of sending deposits by mail satisfactory in every way, for the reason that they not only receive

4 PER CENT INTEREST

but they obtain the greatest safety by having their money in the care of a responsible and safe banking institution.

Our booklet describes our methods and management, and explains the advantage of our simple banking-by-mail system. Write for the booklet to-day.

THE SAVINGS DEPOSIT BANK COMPANY

MEDINA, OHIO

A. T. SPITZER, Pres. A. I. ROOT, Vice-pres.
E. B. SPITZER, Cashier.

Golden-All-Over ITALIAN - QUEENS

I have a few choice untested Golden-all-over Italian queens, reared from Pratt stock, by Pratt's methods, and will be able to supply a limited demand for balance of the season at \$1.25 each.

Wm. A. Shuff, Philadelphia, Pa.
4426 Osage Ave.

JOSEPH HORNE CO.

Pittsburgh, Penn.

White Wash Goods.

July, with us, is a month of Clearance Sales; and although it is almost impossible to give news of such a broad movement in such a small space, yet we feel that you should be advised that during July summery goods of every class will be sold under regular prices. Write for anything you wish and we will give you the benefit of whatever prices are then prevailing.

15c India Linens, 40 inches wide; 18c dotted Mulls, 28 inches wide, both 12½c a yard.

25c Cotton Eoliennes, white and cream; 35c white Striped Piques, both 15c a yard.

25c Dotted Swisses, 40-inch Lawns and Mercerized Waists, all 15c a yard.

50c Soft light weight Piques, 25c a yard.

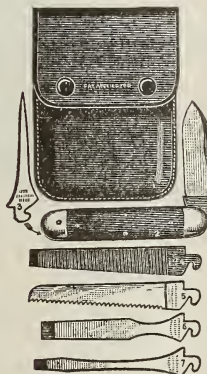
50c Dotted Swisses and Figured Swisses, 35c a yard.

85c Embroidered Figured Swisses, 50c a yard.

Take the foregoing as a sample of what we mean by Clearance prices.

No. 602 Bee-keepers' Pocket-Knife Tool Kit.

Made in America



Every one has use for a Knife, Reamer, File, Saw, Chisel, or Screw driver. This outfit is practical, yet so small, being contained in a Leather Pocket-Book 4¼x3¼ inches, is, by carrying it in your pocket, always at hand for immediate use, whether Camping, Boating, Teaming, Driving, in the Shop, Factory, Office Store Warehouse, Automobile, on the Farm, Bicycle, or around the Home.

Any Tool firmly attached or detached to the Pocket-Knife in a second.

Sent postpaid on receipt of price, \$2.25.

Use it five days and if not satisfactory return it and I will refund your money.

U. J. ULERY CO., No. 7 Warren St., New York, N. Y.

A Good Bee-hive!

is made of the best grade of white pine, accurately cut, so it will go together without the use of tools, except a hammer. Such is the kind of hives we make, and such is the kind you get when you buy from us. It is a cinch that we can make lower prices than you can get from any dealer, as you can save the middleman's profits when you buy direct from the manufacturer. We are manufacturers, and sell direct to the consumer. Send us a list of your wants, and let us make you prices. We guarantee every thing we sell to be satisfactory, or refund the money. We have large stocks of Dovetailed Hives, Sections, Shipping-cases, Foundation, Veils, Smokers, etc., on hand, and can ship promptly.

Minnesota Bee-supply Company

John Doll & Son, Proprietor

Power Building No. 20, Minneapolis, Minnesota

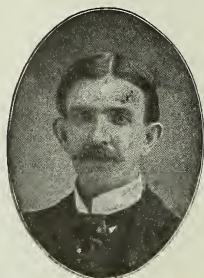
"If Goods are wanted quick, send to Pouder."

Established 1889

Bee-Keepers' Supplies

Distributor of Root's Goods from the best shipping-point in the Country. My prices are at all times identical with those of The A. I. Root Company, and I can save you money by way of transportation charges.

**New Metal-spaced
Hoffman Frames
are Here in Stock**



**Headquarters for the
Danzenbaker
Hive**

**Dovetailed Hives, Section Honey-boxes,
Weed-process Comb Foundation,
Honey and Wax Extractors, Bee-smokers,
Bee-veils, Pouder Honey-jars, and,
in fact, Every Thing used by Bee-keepers.**

BEESWAX WANTED!

I pay highest market price for beeswax, delivered here, at any time, cash or trade.
Make small shipments by express; large shipments by freight.
Always be sure to attach name to package.

Catalog Free

Walter S. Pouder
513-5 Massachusetts Av., Indianapolis, Ind.

Bee = keepers!

Are you aware that we are manufacturers, and can supply you with every thing you need in the apiary?

Good Goods, Low Prices and Prompt Shipments

are the **POINTS** in our favor. Our customers say so. Convince yourself by sending us your order. Ask for our free Illustrated Catalog and Price List.

Page & Lyon Mfg. Co., New London, Wis.

Montana, Minnesota, Dakota, and Western Wisconsin Bee-keepers!

You can save freight by ordering of the St. Paul Branch. We have a complete stock of bee-keepers' supplies. Write at once for catalog and obtain our early-order discounts.

BEES AND QUEENS—Orders booked now for spring delivery.

HONEY AND WAX—We handle honey and wax. Write for particulars.

The A. I. Root Co.

Northwestern Branch,
1024 Mississippi Street,

J. C. Acklin, Mgr., **St. Paul, Minn.**

DO YOU KNOW

That the sale of Dittmer's Foundation has increased so much that we were forced to double our melting capacity in order to fill orders promptly?

There is a Reason for This

It is because Dittmer's Foundation is tough, clear, and transparent, and has the natural color of beeswax.

AGENTS FOR DITTMER'S FOUNDATION:

W. D. Soper..... Jackson, Mich.
Bee and Honey Co..... Beeville, Texas
E. H. Taylor... Welwyn Sta., Herts, Eng.
E. Grainger & Co..... Toronto, Ont., Can.

Our warehouse is well stocked with all kinds of bee-keepers' supplies.

Beeswax always wanted.

Gus Dittmer, Augusta, Wis.

BEE-SUPPLIES

We manufacture every thing needed in the apiary, and carry a large stock and great variety. We assure you the best goods at **LOWEST PRICES**, and our excellent freight facilities enable us to make prompt shipment over fifteen different roads, thereby saving you excessive freight charges as well as time and worry in having goods transferred and damaged. We make the Alternating, Massie, Langstroth, and the Dovetail hive.

Our prices are very reasonable; and, to convince you of such, we will mail you our free illustrated and descriptive catalog and price list upon request. We want every bee-keeper to have our catalog. **SPECIAL DISCOUNTS** now. Write to-day. Address

Kretchmer Mfg. Co., Council Bluffs, Iowa.

Muscatine Produce Co., Muscatine, Iowa.
Trestler Supply Co., Lincoln, Nebr.

Shugart-Ouran Seed Co., Council Bluffs, Iowa.
T. B. Vallette & Son, Salina, Kansas.



Over a Million Lewis Sections

in stock since Jan. 1st, 1906.
Dadant's Foundation and all other goods in proportion. Immediate shipments.

Get your goods in a hurry—before the ink on your order gets dry—by sending to

A. G. WOODMAN CO.
GRAND RAPIDS, MICH.

DAILY EXPRESS TRAINS:

| | |
|----------------------------|----|
| Adams Express..... | 12 |
| American Express..... | 9 |
| United States Express..... | 22 |
| National Express..... | 12 |

DAILY FREIGHT TRAINS:

| | |
|---------------------------|---------------|
| P. M. System..... | 20 and extras |
| M. C. System..... | 6 |
| Gd. Trunk System..... | 10 |
| L. S. & M. S. System..... | 6 |
| G. R. & I. System..... | 12 |
| G. R., G. H., & M..... | 10 |
| G. R., H., & L. M..... | 10 |

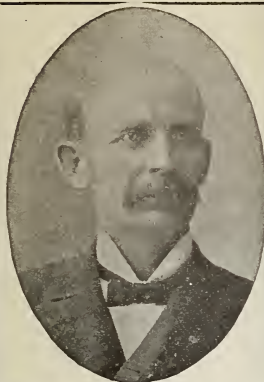
Bee-keepers' Supplies!

Lewis' famous "Beeware," Root's Smokers and Extractors; Dadant's Comb Foundation, etc.; Queens and Nuclei in Season, Large and Complete Stock; Prompt Service. We will meet all competitors who handle first-class goods. Catalog with practical hints free.

"Mandy Lee" Incubators and Brooders!

Whether you are experienced in artificial incubation or not, these incubators will give you gratifying results. The "Mandy Lee" brooder is the only brooder made which applies direct contact heat to the little chicks' backs. Our free incubator catalog describes them. Prompt shipments.

C. M. Scott & Co., Indianapolis, Indiana
1004 East Washington Street



Established 1881

YES!

Same Place 1906

THIS IS THE MAN

WHO HAS HANDLED ROOT'S GOODS ALL THESE YEARS

and is now selling at wholesale and retail at Root's catalog prices. He has carloads of the finest sections, of all kinds and sizes; the Danzenbaker hive, the best single-walled comb-honey hive in use; all kinds of single-walled hives shown in catalog, and supers that match; the Hilton double-walled hive, of which more are used in Michigan than any other. It has stood the test for thirty years. We can't name them all, but send for his 36-page illustrated catalog, and that will tell it all and give prices. Cash or goods in exchange for beeswax at all times of the year. ♡ ♡ ♡ ♡ ♡

Geo. E. Hilton, - Fremont, Mich.

CHICAGO, ILL., June 30, 1906.

TO MY CUSTOMERS AND FRIENDS:

June 20th we were so unfortunate as to have a large fire in the building we occupied, which nearly destroyed our entire stock of bee-supplies. We at once secured much larger and better quarters on the first floor at 191 and 193 EAST SUPERIOR STREET (three blocks north and one block east of our former location), and ordered a full line of the FAMOUS LEWIS BEEWARE—the best that money can buy. We are now in our new quarters and ready to ship goods by return freight or express.

Thanking you for past favors, and trusting to receive your future orders, we are

Yours truly

H. M. ARND,

Proprietor of YORK HONEY AND BEE-SUPPLY Co.,

Send for free catalog.

Chicago, Illinois.

BINGHAM
Original
Direct Draft
CLEAN
Bee Smokers



Pat'd 1878, '82, '02 & 1903

Pretty Recognition

A lady to whom I sent a Smoke Engine to order per mail sent this delicate recognition, "I am pleased," and signed her name.

We have made hundreds of thousands of smokers in the last twenty-eight years. They always please and last; don't spit fire; don't go out; don't daub themselves all over. We are the most extensive exclusively bee-smoker makers in the world.

T. F. Bingham - Farwell, Mich.

Chico, California, October 23th, 1905.

Dear Mr. Bingham:—Enclosed find money-order for a honey-knife and smoker. I can't do business without a Bingham Smoke Engine.

J. M. RANKIN.

A Fine Lot of Queens

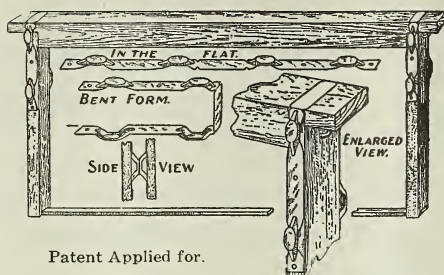
now ready for delivery. Double your crop of honey by stocking your apiary with my queens. That's what many of my customers report they did last year. I am sure my queens will please you.

I am a breeder of Holy Lands and Carniolans. Nuclei and colonies. Large or small quantities.

PRICES: Queens, each, \$1.00; six for \$5.00. Breeders, each, \$5.00. Ask for prices on quantity lots.

W. H. LAWS, Beeville, Bee County, Texas

Metal-spaced Hoffman Frame IN GREAT DEMAND.



Patent Applied for.

Has come to stay. Can be used interchangeably with regular Hoffman frames. Has all the advantages of the regular Hoffman. Is not affected by propolis. Can be handled without pry or screwdriver. Has no rights or lefts, and, therefore, can not be put up wrong. See full description in 1906 GLEANINGS, page 16.

PRICES.—Metal-spaced Hoffman frames—100, put up, \$4.50. In flat—10, 35c; 100, \$3.00; 500, \$14.00. Metal spacers only—30c per 100; \$2.50 per 1000. Hives with metal-spaced frames, 5c extra each body, 8 or 10 frame, put up or in the flat.

The A. I. Root, Company, Medina, Ohio.

PENNSYLVANIA

Ours is the largest bee-supply house in the western half of the State. Every thing which the bee-keeper will need is in stock awaiting your order.

ROOT'S GOODS

AT ROOT'S PRICES

You can save time and expense by ordering from us. .

Best shipping facilities. .

Complete stock.

Do not put off ordering to-day what you will urgently need a little later on in the season.

Frank W. Prothero

Successor to Prothero & Arnold

Dubois, Clearfield Co., Pennsylvania

WISCONSIN

BASSWOOD

FOR SECTIONS

We make them and the very best of Dovetailed Hives, Shipping-cases, and a full line of Bee-keepers' Supplies always on hand. We make very prompt shipments. Let us hear from you.

Marshfield Mfg. Company

Marshfield, Wisconsin

Baby Nuclei.

2nd Edition.

The second edition of this popular treatise is on the press. This book thoroughly covers the field of small mating under management. The experience of 20 years in mating young queens in baby nuclei is given. A delightful little book—good printing, enjoyable reading and easy understanding. Price 25c postpaid.

SIMPLIFIED QUEEN-REARING.—A revised edition of this book just out. It tells the honey producer how to rear queens by the very simplest method ever published. Good queens for little money and little trouble, in just an effective and economical plan for the bee-keeper who works for profit. Price 25 cts. a copy, postpaid.

INCREASE.—Don't depend entirely upon swarming for your increase. It's too slow and uncer-

tain. Swarthmore tells of a way in his delightful little book entitled "Increase"—a natural way, simple and safe, no labor, little trouble. Colonies formed on this plan will work like prime swarms, and store a surplus. Price 25 cts. a copy postpaid.

CELL-GETTING.—The plan that has revolutionized queen-rearing throughout the world. The entire process is fully explained and illustrated by photos from actual life. Price, postpaid, 50 cents.

Swarthmore Queen-Rearing Tools.

The simplicity of these devices places the art of queen-rearing in the hands of the average bee-keeper. Every honey-producer can be his own queen-rearer. Full directions go with each outfit. Here is a chance not only to rear your own queen but for your neighbors at a profit.

Prices of Complete Outfits:

Outfit No. 1--Experimental

POSTPAID, \$1.50

- | | |
|-----------------------|--------------------|
| 1 Cell-bar, | 1 Holding-frame, |
| 16 Waxed Flange Cups, | 12 Transfer-cages. |

Outfit No. 2--Amateur

POSTPAID, \$3.50

- | | |
|-----------------------|--------------------|
| 2 Cell-bars, | 1 Holding-frame, |
| 35 Waxed Flange Cups, | 18 Transfer-cages, |
| 1 Needle, | 1 Cell-stick. |

Outfit No. 3--Professional

BY FREIGHT OR EXPRESS, \$7.50

- | | |
|------------------------|--------------------------|
| 2 Blank bars, | 2 Cell-bars, |
| 3 Holding-frames, | 1 Incubating-cage, |
| 1 Cage-pocket, | 1 Grace Cell-compressor, |
| 1 Grafting-plug, | 100 Flange Cups, |
| 2 Double mating-boxes, | 2 Swarth. nursery-cages, |
| 1 Bar-holder, | 24 Transfer-cages, |
| 1 Swarm-box with lid, | 1 Needle, 1 Stick. |

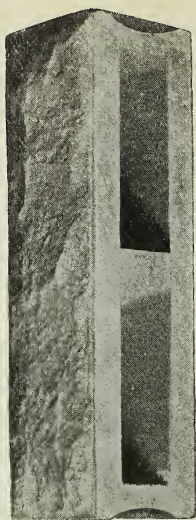
Prices of Separate parts:

| | | post. extra |
|---|--------|----------------|
| Bar-holder | \$.10 | .04 |
| Blank Bar | .05 | .04 |
| Bottle Feeder | .10 | .05 |
| Bulb Filler and Feeder | .75 | .08 |
| 16-hole Cell bar | .10 | .02 |
| Cage-pocket | .25 | .09 |
| Flange-cups, unwaxed, 1c each; per 100. | .75 | .09 |
| Flange-cups, waxed, 2c each; per 100... | 1.75 | .14 |
| Grace Cell-compressor, each | 1.75 | .14 |
| Grafting-needle, each | .15 | .01 |
| Grafting-plug, each | .10 | .01 |
| Grafting-stick, each | .10 | .01 |
| Holding-frame, each | .10 | .05 |
| Incubating-cage, each | .35 | .07 |
| Double Mating-boxes, complete, \$1.00; 10 | 7.50 | |
| Nursery-cages, complete, waxed cell-cup | .35 | .05 |
| Nursery-cages, no cups | .25 | .04 |
| Swarm-box, with lid | 1.00 | |
| Swarm-box, lid only | .25 | |
| T Stands, each | .10 | .06 |
| Transfer-cages | .10 | .02 |

The A. I. ROOT CO.

AT ALL BRANCH HOUSES.

FOR SALE BY ALL DEALERS IN BEE-KEEPERS' SUPPLIES.



This is but a Block---

It shows, however, what can be made with one of our hollow concrete-block machines.

We have machines for making blocks of many different styles and at many different prices.

Send for our new booklet showing styles of houses and block-making machines.

Yours for the asking.

Medina Concrete Company
22 Court Street, Medina, Ohio

A Great Bargain

On account of death of owner about 85 colonies of pure Italian bees, and a large amount of supplies for sale at 50 cents on a dollar.

D. F. KRECKLAN, 2423 Lyndale Avenue, North,
Minneapolis, Minn.

CARNIOLANS our SPECIALTY

WE HAVE been breeding this wonderful race of bees for over twenty years, and during all this time we have been making very careful selections, and we now claim to have one of the best and purest races of Carniolan bees in this country.

They are very gentle, hardy, and prolific; the best of workers; they come out of winter quarters healthier and stronger in bees; they build up very rapidly in the spring, are great comb-builders, and their sealed combs are of snowy whiteness.

Also Breeders of Golden and Leather Italians

No foul brood or other bee-diseases here. Bees and queens guaranteed to arrive in good condition at your postoffice in the United States or Canada. Descriptive price list free.

PRICES.—Untested queen, 75c; six, \$3.90; doz., \$7.00. Tested, \$1.25. Best breeding, \$2.50. Best imported,

F. A. Lockhart & Co.,

SPRAY PUMPS

"TAKE OFF YOUR HAT TO THE MYERS"



The Pump that pumps easy and throws a full flow. The cheapest pump is the best pump, that's a Myers. Pumps, Hay Tools & Barn Door Hangers. Send for catalog and prices.

F. E. Myers & Bro.,
Ashland, Ohio.



Deming's Sprayers

are the ideals for many thousand fruit growers. Get the best. Something for every purpose. Knapsack, Hand, Bucket, Barrel, Etc. Also Power Outfits. Every approved device for right working. Agitators, superior nozzles, etc. Send for free catalog. The Deming Co., 230 Depot St., Salem, O. Heaton & Hubbell, Western Agts., Chicago.



Something New in Honey-jars...

Cook's Square Jar combines a new feature that improves the package and reduces the cost, and is the best and cheapest 1-pound glass package made. Send for circular and full catalog of hives, bees, and useful implements. . .

J. H. M. COOK, 70 Cortlandt St., New York

The Oldest Supply-house in the East, and only Reliable goods sold. 10 cents brings sample jar by mail.

\$4.00. One L.-frame nucleus, 75c; two L.-frame nucleus, \$1.50; three L.-frame nucleus, \$2.00. Add price of queen wanted to nucleus. Special prices quoted on large orders to dealers.

Banater Bees from Hungary

This wonderful new race of bees takes the lead over all other races, all points considered, that we have seen. The three colonies we are testing are strong in bees; do not offer to swarm; are great honey-gatherers; build snowy white combs, and are very gentle; in fact, no smoke is needed to handle them. They resemble the Carniolans in color, though somewhat darker. We have never seen a race of bees with so many desirable qualities. We shall breed a limited number of queens for sale, and have started a queen-rearing apiary five miles from other bees, and expect to have laying bees ready to mail by July 15. Price \$5.00 each. Pure mating and safe arrival guaranteed.

Lake George, New York

QUEENS

By Return Mail at the Following Prices for the Balance of this Season. Golden or Leather-colored Italian.

Our folks say that your queens are extra fine.

The A. I. Root Co., Medina, Ohio

We have good reports from your stock from time to time. George W. York & Co., Chicago, Ill.

On every hand I hear good words of Quirin's queens. B. S. K. Bennett, Los Angeles, Cal.

Your queens did finely. It was one I purchased last year that gave me over 600 pounds of honey.

J. L. Gandy, Humboldt, Neb.

The breeder is surely a very fine one; her daughters do grandly. Campbell & West, Hartstown, Pa.

I had a queen of you last year which produced bees that beat anything ever seen in this part of the country. E. L. Messenger, New Haven, Conn.

The nuclei you sent J. A. Adams did just splendidly. Each colony stored at least 75 pounds of honey.

F. P. Merritt, 13 Breckenridge St., Lexington, Ky.

A few years ago I bought a queen from you which proved to be the best I had for years. H. C. Shirley, Cashier of Liberty Bank, Liberty, S. C.

I have had the pleasure of seeing the results of your queens at Mr. George W. Stanley's apiary, at Scuffletown, Ky., and that is why I am ordering this half-dozen. C. W. Brenner, Newburg, Ind.

I bought a queen from a neighbor last year who said he got her from you. She made me 193 sections of honey after July 4th—the best my other queens did was 64 sections. C. E. Woodington, St. Anne, Ill.

With great respect I write to you in regard to your dealing and queens. If you want any references you can refer to me, as I can't recommend you too highly. Your queens are the best I ever saw. I have one hive of bees among my 45 colonies containing a queen from you that \$50.00 will not buy.

Morris Coon, Route 2, Locke, N. Y.

The two-frame nucleus you sent me was put in a hive May 25th. In July I brushed a swarm; had a swarm in August, and took off 75 boxes of honey. I consider this a wonderful record. I had four nuclei from different parts of the country, and yours was far superior to any of them. They are very gentle, easy to handle, hustlers to work. All bees and queens needed by me will hereafter come from Quirin-the-queen-breeder, Bellevue, O. S. A. Peck, Box 124, Northumberland, Pa.

| | 1 | 6 | 12 |
|----------------------------------|------|--------|---------|
| Select queens..... | 75 | \$4 00 | \$ 7 00 |
| Tested queens..... | 1 00 | 5 00 | 9 00 |
| Select tested queens..... | 1 50 | 8 00 | 15 00 |
| Breeders | 3 00 | 15 00 | |
| Straight five-band breeders..... | 5 00 | | |

Safe delivery and satisfaction guaranteed of all queens. Any queen not satisfactory may be returned any time inside of sixty days and another will be sent gratis.

Address all Orders to

Quirin-the-Queen-Breeder
Bellevue, Ohio.

CARNIOLAN and ITALIAN QUEENS!

Ready to mail by April 15th. Quality of the highest, prices the lowest. Write me.

Grant Anderson - Sabinal, Texas

ITALIAN QUEENS AND GLEANINGS.

For \$1.10 I will send GLEANINGS one year, new or renewal, and give one of my choice untested Red-clover Queens. Queens sent after May 1st.

W. T. CRAWFORD, Hineston, La.

One of the Best

paying investments an apiarist can make is to requeen the apiary with the best stock obtainable.

Extra Honey Queens

are a good stock, a stock which it will pay you to use in restocking your apiary.

Prices

One.....\$1.00 Six.....\$5.00 Twelve..\$9.00

Francis J. Colahan

Bernardo, San Diego Co., Calif.

COLLINGDALE APIARY

J. R. Rambo, Collingdale, Delaware Co., Penn.

Breeder of Caucasian and Golden Italian queens; Italians bred from stock received from Swarthmore; Caucasians bred from an imported queen. Queens reared and mated in separate yards, six miles apart. Satisfaction and safe arrival guaranteed. Prices furnished on application. I am booking orders now for the coming season, and will fill same in rotation as received.

Tennessee-bred Queens

From Extra Select Mothers

Three-band from dark leather imported; Moore's long tongue or my own; Golden from Laws, Doolittle's, or my own; Caucasians and Carniolans from direct imported. No disease. Contracts with dealers a specialty. Apiaries from 3/4 to 7 miles apart. Write name on postal, and get circular and what others say.

JOHN M. DAVIS

Spring Hill, Tennessee, U. S. A.

Caucasian - and - Italian Bees and Queens

Mr. Frank G. Odell Lincoln, Neb., writes: "The yellow Caucasian queen you sent us is an unusually fine queen, and very prolific. We are very much pleased with her."

Do not lose the chance to get such queens.

Write for circular and price list.

A. E. Titoff, Ioamosa, Calif.

Quality Queens

Are the Best Italians yet.

Send for circular. ♀ ♀ ♀ ♀ ♀ ♀ ♀ ♀ ♀ ♀

H. H. JEPSON,

182 Friend St., - Boston, Mass.

H. C. Simpson, Catawba, S. C.

Dealer in

BEE - KEEPERS' SUPPLIES!

Breeder of Italian bees and queens.

Root's Goods a specialty.

CAUCASIAN QUEENS!

For beginners, the timid, and the city bee-keeper. Not stingless, but gentle. With this race many will master the art of handling bees. I breed HIGH-GRADE ITALIAN QUEENS also. The demand for these queens is great; the supply is limited. Write for particulars to-day. Address

Robert B. McCain, Yorkville, Ills. R. F. D.

Superior Queens!!!!

—Before June 15— —After June 15—

Italian and Carniolan

| | | |
|------------------|------------------------|----------------------|
| Untested..... | 75c; \$8.00 per doz. | 60c; \$6.50 per doz. |
| Tested..... | \$1.00; 11.00 per doz. | 75c; 8 00 per doz. |
| Select Tested... | 1.25; 12.00 per doz. | 1.00; 11.00 per doz. |

Caucasian

| | | |
|------------------|--------------------------|----------------------|
| Untested..... | \$1.00; \$11.00 per doz. | 75c; \$8.00 per doz. |
| Tested..... | 1.50; 16.00 per doz. | 1.00; 11.00 per doz. |
| Select Tested... | 2.00; 20.00 per doz. | 1.25; 12.00 per doz. |

Write me a postal card for my circular.

Chas. Koeppen, Fredericksburg, Virginia

QUEENS OF MOORE'S - STRAIN - OF - ITALIANS

produce workers that fill the supers
and are not inclined to swarm. . . .

Stewart Smillie, Bluevale, Ont., Can., says:

"They fill the supers and are not so much inclined to swarm as others. I have been buying queens for fifteen years, and your stock was the only one that was any good to gather honey."

Untested queens, 75c each; six, \$4.00; dozen, \$7.50.
Select untested, \$1.00 each; six, \$5.00; dozen, \$9.00.
Safe arrival and satisfaction guaranteed.

Descriptive circular free.

I am now filling orders by return mail, and shall probably be able to do so until the close of the season.

J. P. MOORE, Morgan, Pendleton Co., Ky.

QUEENS DIRECT FROM ITALY

Fine, reliable. English price list sent on application. Beautiful results obtained last year. OUR MOTTO—"Whatsoever ye would that men should do to you, do ye even so to them."

MALAN BROTHERS, Luserna, San Giovanni, Italy.

Red-clover Italian Queens Exclusively!!

No better honey-gatherers in existence. Select untested, 75c; tested, \$1.00; three-frame nucleus with queen, \$2.00. To prove the quality of my stock I will send two trial queens for a \$1 bill. F. M. Mayberry, Obelisk, Pa.

Queens - Italian - Queens

and bees from Root's Red-clover stock and

Golden Italian queens. Better than ever.

Untested.....60c each; six, \$3.50

Selected untested.....75c " " 4.00

Tested.....\$1.00 " " 5.00

Selected tested.....1.25 " " 6.00

Two-frame nuclei with untested queen..2.00

Orders filled in rotation. . Send orders to

E. A. Simmons, Greenville, Ala.

From Long-tongued Imported Italians.

Untested, 75c; \$7.50 per dozen. Tested, \$1.25;

\$12.00 per dozen. Breeders, \$2.00 to \$3.00.

Postal orders drawn on Decatur, Michigan.

E. E. MOTT, Glenwood, Mich.

Orders Filled Promptly by Return Mail

Queens from our fine strain of three-band Italians will not disappoint you. Bees are gentle, and the best of honey-gatherers. Queens are large and prolific, and every one guaranteed. Untested, 50c; \$6.00 per dozen. Tested, \$1.00.

J. W. K. SHAW & CO.
Loreauville, Iberia Par., Louisiana

DOOLITTLE & CLARK

are booking orders for their famous
Italian queens. Now is the time to
order breeders. Send for circular.

| Grade. | One | Three | Twelve |
|----------------------------|--------|--------|--------|
| Untested..... | \$1.00 | \$2.50 | \$9.00 |
| Select Tested..... | 1.50 | 4.00 | 14.00 |
| Tested (1905 rearing)..... | 2.50 | | |
| Select Breeding..... | 5.00 | | |
| Extra Select Breeding..... | 10.00 | | |
| Two-frame Nuclei..... | 2.50 | 7.00 | 25.00 |

DOOLITTLE & CLARK
Borodino, Onondaga Co., New York

Rose - Lawn - Queens \$25.00 IN PRIZES.

For the largest number of sections No. 1 comb honey produced by a colony headed by one of our "Pure Gold" queens before September 15th, 1906, \$10.00 cash. For the second largest, \$7.50 cash. For the third largest, \$5.00 cash. For the fourth largest, \$2.50 cash. In addition to the above offer we will pay 20 cts. per pound for all prize honey for exhibition purposes.

Select, untested "Pure Gold" queens, \$1.00. Select tested "Pure Gold" queens, \$2.00. Select breeding queens, \$6.00. Our very finest extra select tested breeders, in 2-fr. nucleus, f. o. b. Lincoln, Neb., \$10.00. We ship in June, 200 "Pure Gold" queens to one customer. Caucasians / Carniolans / Red Clover Italians
Rose Lawn Apiaries, Station C, Lincoln, Nebr.

The Best Stock

Nice three-banded Italians that are guaranteed to please, or money refunded. The Robey queens now go to nearly all parts of the globe. They are being used by many of the largest honey-producers of this and other countries, who pronounce them to be very superior strain of bees. I have spent 21 years in building up this strain of bees. Warranted purely mated, in any quantity, 60 cts. each; selected warranted, 75 cts. each.

L. H. Robey, Worthington, W. Va.

Untested Queens! Golden Italian

75 cts. each; six for \$4.00; an extra fine one for \$1.00. Warranted purely mated and good queens. . . .

J. B. Case, Port Orange, Fla.

Red-clover Queens from Westwood Apiary

will convince you of their superiority over all others. One, two, and three frame nuclei a specialty; also full colonies. Price list sent on application.
Henry Shaffer Westwood, Ohio

Queens! Balance of this season at 20 per cent discount; three or five banded; untested only.
R. O. COX, Rt. 4, Greenville, Ala.

1906 Italian and Caucasian Queens. Price list now ready. Write E. E. LAWRENCE, Doniphan, Mo.

BEES and QUEENS

BY RETURN MAIL.

The Three-banded
Long-tongued Strain
of Italians.

We are breeding exclusively the above strain of bees, as from years of experience we consider them the best all-round bees that can be had. We have been making, from time to time, very careful selections for the following

Superior Qualities.

Honey-gathering, size of bees, non-swarming, docility, uniform markings.

Our selection of bees awarded diploma at the PAN-AMERICAN EXPOSITION for being the best bees there. And we guarantee them the equal of any bees anywhere at any price

Quality Our Motto.

1300 colonies to select from.

| | |
|------------------------------------|--------------------------|
| Untested queens..... | 75c; 6, \$4.25; 12, 8.00 |
| Select untested queens..... | 1.00; 6, 5.00; 12, 9.00 |
| Tested queens..... | 1.00; 6, 6.00; 12, 11.50 |
| Select tested queens..... | 1.50 |
| Breeding queens, \$3.00 to \$5.00. | |

Yours for best service,

The Victor-Knolle Apiary Co.,
Hondo, Texas.

Italian and Caucasian Queens and Bees



Choice homebred and imported stock. All queens reared in full colonies.

PRICES FOR JUNE

ITALIANS

| | |
|-------------------------------|------|
| One untested queen | 90 |
| One tested queen | 1.10 |
| One select tested | 1.40 |
| One breeder queen | 2.20 |
| One-comb nucleus, no queen... | 95 |

Untested queens in May. Safe

arrival guaranteed. For prices on quantities, and description of each grade, send for free catalog.

J. L. Strong, Clarinda, Iowa, U. S. A.
204 East Logan Street

Same Old Place

is where you get the best of queens; untested, \$1.00; \$4.25 per 6; \$8.00 per dozen. Tested, \$1.50; best breeders, \$5.00. Absolute satisfaction and safe arrival guaranteed. Carniolans, Cyprians, Holy Lands, Italians.

The JENNIE ATCHLEY CO.,

Box 18, Beeville, Bee Co., Tex

ITALIAN QUEENS

bred from best of honey-gatherers, either three or five banded or Golden races. Untested, 65c each, 3 for \$2.00, 6 for \$3.75, 12 for 7.25; tested, \$1.00 each, 6 for \$5.00, 12 for \$9.00; select tested, \$1.50 each; breeders, \$300 each.

J. W. Taylor, Beeville, Bee Co., Texas

Italian Queens

Northern-bred; originated from best long-tongued "red-clover" breeders in the United States; bred in full colonies; excellent honey-gatherers; winter well, and gentle.

Untested, \$1.00; six, \$5.00. Tested, \$2.00; six, \$10.00. After July 1; 75c, \$4.00, \$1.50, \$8.00. Write for descriptive circular. Satisfaction guaranteed.

ISAAC F. MILLER,
Brookville, (R2). Pennsylvania.

Boston Headquarters

— FOR —

Bees-Queens-Supplies

H. H. Jepson - 182 Friend St.

Italian Queens of - the - Purest - Strains

I offer this race of queens, bred from select red-clover and five-banded breeders, at the following prices:

Untested, 75c; select untested, \$1.00; tested, \$1.50; select tested, \$2.50. I will guarantee safe arrival and satisfaction.

H. M. PARKER, Jr.

James Island, South Carolina

QUEENS!!

Now is your chance to get the best of queens. Having caught up with my orders I can send them promptly. Untested Golden, 75c each six for \$4.25, or 12 for \$8.00; tested, \$1.00 each; three or five banded. Write for circular and prices.

Daniel Wurth, 1111 North Smith St., San Antonio, Texas

MINNESOTA-BRED QUEENS.



Try our Northern-bred queens—nothing finer; three-banded and golden Italian queens, untested, 75 cts.; tested, \$1.50. Hardy and prolific. We want your orders, and will fill them by return mail, and guarantee safe arrival and satisfaction. Write for circular to

MENNIE & FENTON,
Pine Island - Minnesota.

I. J. STRINGHAM

OF 105 PARK PLACE

New York

furnishes every thing a bee-keeper uses. Strong colony of bees, with tested Italian queen, in Dov'd hive complete, \$8.00; in a chaff hive, \$9.50. Three-frame nucleus, with Italian queen, \$4.00. Silk-faced bee-veil, 40 cts. postpaid. Italian queens, 85 cts. Catalog of bee-supplies free.

Apiaries, Glen Cove, Long Island.



Red Clover and Italian Queens.

Untested, 75 cts.; tested, \$1.00. Selected tested, \$1.25; 4-frame nuclei in a nice painted hive, and tested queen, all for \$3.75. "Your bees are swarming on my red clover fields," says G. W. Slaybaugh, York Springs, Pa.
G. ROUTZAHN, Biglerville, Pa.

Wants and Exchange.

Notices will be inserted under this head at 15 cts. per line. Advertisements intended for this department should not exceed five lines, and you must say you want your advertisement in this department or we will not be responsible for errors. You can have the notice as many lines as you like, but all over five lines will cost you according to our regular rates. This department is intended only for bona-fide exchanges. Exchanges for cash or for price lists, or notices offering articles for sale, will be charged our regular rates of 20 cts. per line, and they will be put in other departments. We can not be responsible for dissatisfaction arising from these "swaps."

WANTED.—Refuse from the wax-extractor, or slumgum. State quantity and price.

OREL L. HERSHISER,
301 Huntington Ave., Buffalo, N. Y.

WANTED.—To sell or exchange one Harrison blue-flame oil-gas stove, brand new, never used, for bee-supplies, extractor, or offers. SEWARD STEFFY, Rt. 2, Glouster, O.

Help Wanted.

WANTED.—Position in comb, extracted, or queen-rearing yard; 15 years' experience; at present manager of the largest apiaries in Northern California. Reasons for leaving.
JAMES DUNN,
Route 1, Vacaville, Cal.

WANTED.—A cook in a private family of three. Good home for respectable woman. Good wages paid. Address
JOHN RICK,
434 Oley St., Reading, Pa.

For Sale.

FOR SALE.—400 cols. pure Italian bees in lots to suit. Write for prices. F. A. GRAY, Redwood Falls, Minn.

FOR SALE.—Bees and bee-supplies.
J. GOBELI, Glenwood, St. Croix Co., Wis.

FOR SALE.—25 Italian queens from good stock, 60 cts. each; no disease in apiary.
W. H. DANALDS,
Box 213, Berea, O.

FOR SALE.—Bee-keepers' supplies. Root's goods. Root's prices. Free catalog. F. R. DANIELS,
117 Florence St., Springfield, Mass.

FOR SALE.—My apiary complete in the great irrigated alfalfa belt; no failure yet. See GLEANINGS of Dec. 15, 1903, page 1051.
C. K. C., Lovelock, Nev.

FOR SALE.—Queens. I breed a superior strain of fine golden-all-over Italians. Ask for prices.
T. L. McMURRAY, Ravenswood, W. Va.

FOR SALE.—170 colonies of bees in eight and ten frame hives; honey-house on wagon, uncapping-tank, honey-tank, four-frame extractor; mare, colt, horse, cow, 200 chickens, 10 acres of land with improvements.
Rt. 3, Mrs. T. HARRIS, Visalia, Cal.

FOR SALE.—Queens from 50c up. Bred from Root's imported Italians. Write for prices, stating wants.
C. M. CHURCH, Arnold, Pa.

FOR SALE.—About 100 tested queens, 60 to 75 cts. each, if ordered at once. A few black and mismatched queens, 25 to 35 cts. None of these older than reared last year.
B. F. AVERILL, Howardsville, Va.

FOR SALE.—The gentle Caucasian bees and queens bred from the best imported Caucasian queens. Italian bees and queens. Write for particulars.
A. E. TITOFF, Ioamosa, Cal.

FOR SALE.—The Alexander wire bee-veil. The best face-protector on the market. Try one and be convinced. At 75c each postpaid.
FRANK C. ALEXANDER, Delanson, N. Y.

FOR SALE.—About 300 sixty-pound cans; mostly new, good condition, new cases, two cans to a case; 40 cts. per case, f. o. b. Preston.
M. V. FACEY, Preston, Fillmore Co., Minn.

FOR SALE.—Special sale of sections—Wisconsin basswood—equal to the best, No. 1, \$4.20; No. 2, \$3.70. Root Dovetailed and Danz. comb-honey hives, and all kinds of supplies on hand. Italian queens and bees.
H. S. DUBY, St. Anne, Ills.

FOR SALE.—If you want an illustrated and descriptive catalog of bee-keepers' supplies for 1906 send your name and address to
FRANK S. STEPHENS,
(Root's Goods.) Paden City, W. Va.

FOR SALE.—Bees; the right kind, right prices. Safe arrival and satisfaction guaranteed. Ask for illustrated Outfits for Beginners, price list, and our hints on buying bees. MASON SUPPLY Co., Mechanic Fs., Me.

FOR SALE.—500 colonies of bees located in the best sweet-clover belt in the U. S. Will take \$1500 for the outfit. Reason for wanting to sell, too much other business. If I do not sell shall want a good man to run them next season.
W. N. CANNON, Greenville, Ala.

FOR SALE.—\$5200 fine ten-acre home, steady income; oranges, and 8 cuttings alfalfa a year. Good reasons for prompt sale at this bargain. Just the place for a tenderfoot; for, growing in value rapidly, would re-sell at profit. \$600 more will include profitable bee-ranch.
G. K. HUBBARD, Riverside, Calif.

Poultry Offers.

FOR SALE.—Trio of Buff Orpington chicks. Price \$5.00. Bred from pure stock, and fine birds.
M. H. WINEBRENER, Wallersville, Md.

FOR SALE.—Choice poultry. Ten leading varieties for the farmer or the fancier. Circulars free.
A. H. DUFF, Larned, Kansas.

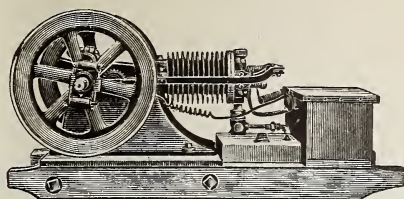
FOR SALE.—Alger's rose-comb Brown Leghorns hold the world's record; first at Chicago International, St. Louis World's Fair, exposition at Portland, Oregon. Italian bees—Root strain direct. Flemish Giant hares, very large. Red Belgians from 16-lb. buck. Get circulars.
FRED ALGER, Waukau, Wis.

Blacks and Hybrids.

Notices in this column are inserted free, and the publishers assume no responsibility for sales made. We believe, however, that every advertiser will do just as he promises.

FOR SALE.—Black and hybrid queens at 10 cts. each.
R. H. COLEGROVE, Remus, Mich.

FOR SALE.—A number of mismatched queens for sale cheap.
T. BRIGGS, Main St., Mattapoisett, Mass.



Power for Extractors.

We have finally found what we have been looking for in a gasoline-engine to run our large-sized honey-extractors. They are very reasonable in price, and simple to operate.

They are economical, using but a quart to a quart and a half of gasoline a day, per horse power.

There is no waste of power, as a sensitive governor cuts out both gasoline and batteries when engines are at their proper speed, and charges are resumed as soon as speed slackens.

As the engines are air-cooled and use no water there is no danger of cracked cylinders in cold weather. They can be operated in any temperature.

They are light in weight, and can be easily moved, and used for a multitude of purposes, as well as for extracting. They are the most satisfactory engines for running cream-separators, churns, fans, sewing and washing machines, ice-cream freezers, meat-choppers, printing-presses, and, in fact, all kinds of light machinery. They are the ideal pumping-engines.

They are made of the best materials, with as careful attention to details as the larger and more expensive engines. Each engine is mounted on a board with tank and battery box, ready to run. They are thoroughly tested before shipping, and fully guaranteed.

Shipping-weight of one-horse-power engine complete, ready to run, 300 lbs. Price \$60, f. o. b. factory in Wisconsin, Medina, or Chicago. In running a large extractor by power the ratio of the gear should be one revolution of the reel to two of the crank-shaft; and in place of the crank a flanged clutch-pulley or a pulley with belt-tightener should be used. These attachments are worth \$5.00.

The A. I. Root Co.,
Medina, Ohio.

Perfect? What better can you wish? You can now, by use of the

PERFECT PAMPHLET RESERVER

them to get it, or write to

BIND

GLEANINGS

AT A TRIFLING COST!

On the shelf it looks just like a book; holds one number or a volume; as simple as tying a shoe. See it at news, book, or stationery dealers. Ask **The A. I. Root Company, Medina, Ohio.**

GOLDEN Opportunities!

EXIST in the South, and the Seaboard Air Line's monthly magazine will point them out to you. If you are thinking of changing your location, engaging in other business, want a winter home, a summer home, or a place for all-the-year-round residence, want an orange grove, a banana plantation, a pineapple grove—in fact, anything, and want it in Virginia, the Carolinas, Georgia, Alabama, or Florida, the magazine will assist you.

Sent free on request, together with other handsomely illustrated literature descriptive of the South and its wonderful resources and progress.

J. W. WHITE

Gen. Indus. Agt., Portsmouth, Va.

Seaboard Air Line Railway

THE "BEST" LIGHT

Made in Over 100 different styles.

100-Candle Power Light at a cost of 2c per week.



More brilliant than Acetylene or Electricity. No Grease—Smoke—Dirt or Odor.

Agents Wanted Everywhere.

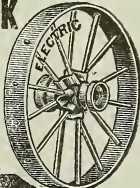
THE BEST LIGHT CO., E. 5th St., Canton, O.

SAVE YOUR BACK

Save time, horses, work and money by using an

Electric Handy Wagon

Low wheels, broad tires. No living man can build a better. Book on "WheelSense" free. Electric Wheel Co. Bx 95, Quincy, Ill.



LAWN FENCE

Many designs. Cheap as wood. 32 page Catalogue free. Special Prices to Cemeteries and Churches. Address **COILED SPRING FENCE CO., Box 448 Winchester, Ind.**

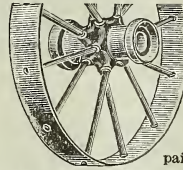


EXTENSION AXLE

Make old buggies run like new. Quick sellers. Very profitable for agents. Exclusive Territory. Hardware Specialty Co., Box 535, Pontiac, Mich.

NUTS

CURE WABLES.



STEEL WHEELS

with wide tires double the usefulness of the farm wagon. We furnish them any size to fit any axle. Cheaper than repairing old wheels. Catalogue free.

EMPIRE MFG. CO., Box 91A Quincy, Ill.



FENCE Strongest Made

Made of High Carbon coiled wire. We have no agents. Sell direct to user at factory prices on 30 days free trial. We pay all freight. Catalog shows 37 styles and heights of farm and poultry fence. It's free. Buy direct. Write today

COILED SPRING FENCE CO., Box 101 WINCHESTER, INDIANA.

You Need It. : : : :

- If you have only a few chickens;
- If you are at all interested in poultry;
- If you are breeding for fancy points;
- If you cater to the market trade;
- If you are in the business on large scale, you need

Ohio Poultry Journal

the paper published in the interest of the farmer, beginner, and small breeder, with plenty of pointers for the experienced fancier. Each month is especially edited for the needs of that special season of the year. Regular price is 50 cts. a year, but we offer it **AT HALF PRICE** for a short time to introduce it to readers of Gleanings. Send only 25 cts. and get it a year; or, if you send us \$1 for a year's subscription to Gleanings in Bee Culture, we will send you Ohio Poultry Journal for a year free. Address Ohio Poultry Journal, Dept. 14, Dayton, Ohio.

\$1.00 WILL PAY FOR TEN YEARS!

120 copies and no less than 3840 pages (size 8x11 1/4 inches) of valuable poultry, pigeon, and pet-stock reading, costing us thousands of dollars to procure. Also your name and address in the "Poultry breeders' Directory" for 10 years; revised yearly. Send \$1.00 to day, and address

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